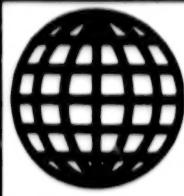


JPRS-UEA-89-025  
27 JULY 1989



FOREIGN  
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# ***JPRS Report***

## **Soviet Union**

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***Economic Affairs***

# Soviet Union Economic Affairs

JPRS-UEA-89-025

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27 JULY 1989

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## ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

### Conditions for Creating Flexible Economy Examined

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Russian No 6, Jun 89 pp 82-90

[Article by V. Smirnov, doctor of Economic Sciences,  
professor: "Outline of a Flexible Economy"]

[Text] One of the compulsory requirements for the successful functioning of an economic system is its flexibility, the ability to react quickly to changes in production conditions and maneuverability on various national economic levels.

In its most general form, the flexibility of an economic system is determined by the maximum comprehensive capacity of the entire system (enterprise, sector, national economy of a region, country as a whole) for structural, technological, organizational, i.e., more generalized, economic restructuring. Consequently, flexibility and restructuring are indissolubly bound.

Flexibility also determines the limits of freedom in economic maneuvering—a change in the investment policy and the maneuvering of various resources, including labor resources. It also forms the objectively existing limits within which the economic independence of enterprises can appear, and moreover, can be expanded only with a corresponding increase in the flexibility of the entire economic system.

Let us examine the most important conditions, under which, in our opinion, the flexibility of an economic system can be ensured.

#### Flexibility and the Reserves of Production Capacities

The existence of normal reserves for capacities is an indispensable condition for the reliable functioning and development of any economic system and at the same time an essential factor for the formation of its flexibility. Without reserves, because of the action of various types of random and indefinite factors, which are objectively inherent in the processes of development of economic structures, it is simply impossible, in our opinion, to ensure flexibility and reliability. Undersupply of products, overstress, lack of balance—all these are in many ways the result of operating a large number of sectors of the national economy without reserves. At the same time, the fact that only active production capacities, which can be put into operation if necessary, can be regarded as reserves, must be taken into consideration. One cannot include among reserves second or third shifts at enterprises if they are not supported with labor or other resources, as well as different types of commodity-material resources and stocks, which, as the result of mismanagement (incomplete sets, superfluity) or for other reasons cannot be used as an actual capacity. The

assertions of some economists, that we have huge, above-norm stocks and reserves, are based on a misunderstanding. There are stocks, but not reserves.

One can hardly explain a mass phenomenon such as undersupply of products as mere mismanagement or the imperfection of the economic mechanism. If there are not sufficient reserves, there will be undersupply, and under these conditions it is impossible to organize true cost accounting, to create space for maneuvering, to form efficient wholesale trade and to solve the problem of expanding the economic independence of enterprises. Even the most highly perfected mechanism will fail if there are no reserves. This is also true of the market economic system, since the factors of uncertainty and risk are greater in it than in the planned economic system.

In the raw energy sources of the United States, for example, the direct reserves of the capacities reach almost 30 percent<sup>1</sup>. In addition, the extent of use of the working capacities is substantially lower than in our country. As a result, to ensure the generation of electric energy which we have achieved, by American measuring standards, we would have to have 30-40 percent greater capacities for electric power plants than are available. The difference in the situation with respect to reliability and flexibility is more than obvious.

In reality, we do not need large reserves—and this is one of the advantages of a planned economy. They should not, however, be at such an impermissibly low level as they are now. After all, it is the shortage, for example, of construction capacities that is the main source of lengthy construction projects and the radical reduction in the efficiency of the objects introduced. Either less must be constructed, or the construction capacities must be increased, so as to create a reserve.

When international journalists give examples of efficient construction "from the wheels up" in Japan or the United States, the idea creeps in that we are incapable of organizing things properly. Meanwhile, in the economic system without reserves in which we find ourselves, no one, perhaps, could succeed in doing that. For efficiency in construction abroad there are large reserve possibilities of attracting various firms, ready to be rapidly included in this process. The lack of reserves for capacities and the related inflexibility is a serious inhibition to scientific-technical progress.

They say that the miserly pay twice. With respect to the problem of creating reserves, the justice of this assertion is increasing. For example, the losses arising in the national economy because of the lack of reserve capacities for power resources can exceed the cost of the reserves themselves by a factor of 10. This means that in a reserveless economic system we pay far more than double. The main losses, however, stem from the fact that the entire management system is put in a position in which it is forced to be engaged in hopeless coordination

to make ends meet, in an attempt to balance the goals and resources somehow, and with beating out these resources, and it has no possibilities of turning to a solution of the strategic problems—developing scientific-technical progress, updating the fixed capital, structural restructuring, etc.

How have we got into this situation? There are two reasons. The first is related to the good intentions to give a bit more output with the same production capacities. This is rather lack of economic foresight—failure to take into consideration the fact that today's gains will subsequently be answered by losses in rates and instability in the economic system. Another reason is the pursuit of the "gross" by any means, and when the lawful possibilities were not enough or were not successfully utilized, the reserves "were eaten up." This process was multidimensional. It should be noted that if the quality of the goods produced drops below the standard, the capacity seemingly increases, and this would mean that it was not simply a drawing in of reserve capacities, but a seeming transition to a "minus sphere of reserves".

Another means of actually diminishing reserves is to reduce the quality of the equipment. One can speak in all fairness of the amount of production capacity in the normal process of simple reproduction. If, however, the depreciation deductions are not used for their direct purpose, in attempts to introduce additional new capacities, then some of the capital will pass beyond all limits of obsolescence, and these are actually not capacities—they are only counted as them.

There is another form of concealed "eating up" of reserves—using the capacities of repair organizations at the end of the quarter, year, or in the periods of completing the construction of new capacities, not in accordance with their purpose, when repair workers are temporarily converted into construction workers. It is obvious that enough has been said to illustrate the complex nature of the processes of forming a reserveless economy.

What should be the strategy to create reserves of the production capacities, if it is adopted, and how many of them are needed? In different sectors, apparently, different numbers of reserves are needed. In power engineering this is about 10 percent, in the capital-creating sectors (machine building, the building and construction materials industry, in construction) somewhat more, and in the capital-consuming sectors, fewer. On the whole, substantiating optimum reserves is a special task.

If one is oriented toward adjusted figures, at our rates of development, it takes two to three years to create reserves. After the first year, the realization of the policy of forming reserves will form its own sources for financing and the transition to self-financing and cost recovery is possible. At the same time, the growth rates of the capacities and output of products can be gradually

brought together and in the future the necessary prerequisites will be created for their overall increase. Therefore, the policy of creating reserves in no way contradicts acceleration in the national economy.

As for the concept of restructuring, as has already been noted, the creation of reserves is a necessary condition for its realization. Here, however, the question of sequence rises above all. In our opinion, objects of the capital-creating group of sectors should be primary, which is emphasized by the line already adopted for outstripping development of the machine building and certain other sectors of this group, and requires intensifying measures in this sphere. Another problem lies in selecting the reserves. Of course, their sources should be primarily objects with reduced efficiency. It is for them that the rates of developing product output or even the absolute values of the output must be reduced. Finally, if this does not contradict the first two approaches discussed above, there must be elimination of the greatest bottle necks where there are great shortages of capacities and the country incurs the greatest losses from insufficient reliability, poorer product quality and a limit of flexibility.

The economic mechanism for carrying out the policy of creating reserves should be a combination of centralized control and economic independence of the enterprises and other cells of the economic system. A differentiated policy for creating reserves, and guide lines for the rates and proportions of its realization and incentive system, should be worked out in a centralized manner. For this it would be expedient for USSR Gosplan to assign a special subdivision within the framework of its existing structure. All the rest is a matter of economically independent national economic formations.

In concluding the question of the policy of creating reserves, one cannot help but turn attention to the moral-ethical aspect of the problem under discussion. The lack of reserves, the chronic shortages in output and other consequences arising from this constitute the main stress factor for directors of varying ranks, and undermine their health, often pushing people who are gifted, but do not have nerves of steel, away from directorial work. Here, however, is the main source of pleading objective reasons for the various breakdowns, which in many cases are actually objective. The main moral-esthetic losses among workers—idle times, reduction of earnings, doctoring records to upgrade earnings, overtime—cannot all be listed. Therefore, creating reserves is an important factor in improving the moral atmosphere in society and putting order into the style and quality of human attitudes.

#### Structural Flexibility

There is another source of forming a flexible economy—increasing structural flexibility. Here it is appropriate to speak of the so-called principle of necessary diversity, and the completely inadequately practiced control of the

economic system. Its main essence is that the diversity of control (in form and content) should to a certain extent correspond to the diversity of changes, the volume of which is particularly growing with the breakdown of inertial tendencies—on the way to restructuring. Here can be singled out the variety of the structure of the object of control itself, on the one hand, and the controlling system—on the other.

The diversity of properties, technical-economic characteristics, composition of the resources used, manipulating qualities of the elements constituting some sort of production system—sector, association, economy of the region, economics as a whole—is its pledge of ability to react quickly to changes, display great stability of economic characteristics when negative phenomena arise and adapt to changes with the least expenditure. The diversity of properties of the structure also creates a diversity of paths to achieve the goals of development and gives scope for adopting optimum decisions, which ensures flexibility. It is important to put in order the directivity of this process and know how to create the precise necessary diversity.

It appears that a flexible economy should contain a certain stable nucleus, in which are concentrated highly specialized and efficient production and zones of flexibility, where small and medium-sized production facilities should operate, with the lower levels of specialization, a multi-product-list nature, with flexible technology, etc.

The main thing here is to form a scale of the flexibility zone which would be commensurate with the scale of possible changes. Of course, at the same time it must be taken into consideration that some of them would be compensated through the reserves of the capacities, if they are created, but some of them should be covered through structural flexibility.

Diversity is limited not only by the aggregate of objects of the zone of flexibility, but also by the corresponding policy of standardization and unification, which so far has not been directed toward increasing flexibility in the economic system. Standardization, just as unification, on the one hand, creates a broad field of interchangeability of output, means of production, assemblies and parts, and this increases flexibility, but on the other hand—reduces it, since the diversity of type-sizes alone begins to limit the necessary possibilities for economic maneuvering. On the whole, to increase the flexibility of our economy, this problem must be worked out in detail, particularly since in different sectors the tasks look different even for the general formulation.

One of the factors of structural flexibility is expanding the infrastructure of part of the production (or other) system. The thesis indicated is equally justified for the production and the social infrastructure. The limited housing, departmental housing and many other things do not give scope for maneuvering the personnel, and attach

workers to certain enterprises and housing localities. All this brings losses. In dynamic economics, the main thing is efficiency. Efficient enterprises should not experience personnel shortages, and others should be faced with the alternative: if you do not increase efficiency—you lose people.

A course has already been taken toward outstripping development of the social infrastructure. I should like only to emphasize that providing each family with an apartment or home solves a major social problem, but the problem of creating a flexible economy has not yet been solved. There must be a seeming reserve of the social infrastructure, or rather, a reserve possibility for it must rapidly be expanded, if necessary, in a certain specific place.

Another direction for creating structural flexibility is a change in the structure of capital investments in favor of the capital-creating group of sectors. Let us take power engineering as an example. Because of the accident at the Chernobyl AES, many standpoints of accelerated development of nuclear power have been reviewed. The reduction, at the present stage of its rates of development, can be compensated by an intensification of energy conservation and increase in the development of the gas industry, as compared with the rate outlined.

With the strict limits on large-diameter pipe production, the inequality or even absence of the machine- and instrument building sectors, operating with energy consumption and an overall lack of base for power machine building, however, there is no space for economic maneuvering. To create the prerequisites for flexibility, reserve capacity is needed, not so much in power engineering itself, as in the sectors supplying the resources: power machine building, the pipe industry, instrument building, etc. We know that the ratio of capital investments in the power engineering and capital-creating complex of power engineering orientation is the same as if only 10 percent of the capital investments conserved in power engineering had been transferred to it, and the developmental rates of this complex could be doubled. One can only be amazed at the way in which, in a planned economy, we have succeeded in strangling ourselves on all sides.

The above is also true of the other subsystems of the national economy. The course taken toward accelerated development of the capital-creating complex increases not only the potentials for scientific-technical progress and the effectiveness of economics, but also its flexibility. It is this complex precisely that gives the strategic and efficient scope for decision-making. Consequently, the parameters of the course taken should also be corrected from the standpoint of creating a flexible economic system.

Flexibility also depends to a considerable extent on how widely parallel national economic relations are represented in the economic system. The point is that in any

structures, extended consecutive relations, when it is necessary to implement a number of decisions, coordinated in consecutive chains, reduce the flexibility, since in order to introduce any change in a certain specific element of the chain, decisions on the remaining consecutive links must be changed. Parallel relations, however, are mutually independent, and it is easier to introduce changes here.

The correlation of consecutive and parallel relations in the national economy is most specifically characterized by the scale of internal turnover—the proportion of the output of each sector which is intended not for the end goals of the functioning of the economy (needs of the population, defense), but for the intermediate goals of other sectors. If it is large—there is large internal turnover in the economy and, as a result, a reduction in its flexibility. Therefore, all the measures that contribute to a reduction in the proportion of internal turnover have a positive effect on flexibility. Consequently, the policy of resource- and energy-conservation also has advantages over the policy of increasing production resources from the standpoint of the tasks of creating a flexible economic system.

There are other possibilities of increasing structural flexibility. For example, in a situation of uncertainty and risk, the expenditures of the early years of the future are particularly critical, not only because the so-called time factor is in operation, but also because of the fact that it is possible to maneuver only through the as yet unmade expenditures of resources. Therefore, the usual strategy of minimizing expenditures or the maximum of profit for the period of the future contradicts the requirements of flexibility and this means engendering additional expenditures, which were not taken into consideration (expenditures for adaptation to the changes).

Increasing structural flexibility does not require additional expenditure of capital, since it is a question in all cases only of a sensible redistribution of resources: between sectorial and basic science, between capital-creating and capital-consuming sectors and between the short-term and long-term future, and moreover, which is important, in the direction of the long-term, etc. The effects are clear—a reduction in expenditures to adapt to the changing situation, and an increase in the reliability of developing the national economic complex, giving it greater dynamism. The leading role here is for the central planning organs, particularly for USSR Gosplan.

### Flexibility and the Economic Mechanism

How must centralized management be combined with economic independence? It has now been determined that the role of centralized management—forming and carrying out the strategic line—is a strategy of scientific-technical progress, the necessary rates and basic proportions, etc. Consequently, the sphere of economic independence—tactics that are in general, apparently, correct—is a thesis. First of all, however, the question

arises: all right, does the country need tactics at the national economic level at all? After all, it is a fact that for the national economy, tactics, for an enterprise or even for an entire sector, can prove to be a strategy. Does this not mean that enterprises and sectors are fully independent in working out and carrying out their own development? But then, how is national economic strategy realized? After all, it is materialized in new construction projects, in specific decisions for the sectors and on to the most important enterprises, i.e., it encroaches on the limits of their independence, unless it is restricted. Finally, this is also a transition exclusively to economic methods of management, removing the question of an optimum combination of economic and efficient administrative methods, since for the latter, judging by individual publications, there is seemingly no place remaining. Is it not time, however, to conceive the end result of realizing this concept? Can we achieve the best results? Unquestionably, the zone of action of economic methods and manifestations of economic independence must be expanded. Infinitely, however? That is the main question.

All the shortcomings of the command-bureaucratic style of management are now obvious. This does not mean, however, that there should be renunciation of the scientifically substantiated centralized planned management in general or that it should be reduced only to working out the recommended strategic course and some centralized system of economic levers and stimuli. The fact that we sometimes identify the command-bureaucratic system with centralized management in general—is this not a tribute to the inertial approach, flowing out of evaluation of the period of stagnation into our time of new thinking?

Let us compare our possible levers and stimuli for economic procedure with those of a capitalist. A capitalist is a property owner, and the measure of his economic responsibility as a property owner is immeasurably higher. With insufficiently efficient decisions, he can lose a great deal or even everything. In our country, only part of our wages, and that not always, can be lost as the result of inefficient activity. Or, let us say, a stimulus such as a differentiation in wages. We cannot create a distance in it such as that between, for example, the higher employees and the workers, in the capitalist world. The same thing can be said of the difference in pay for other categories of workers. But prices, the tax policy, and other levers and stimuli?

What can oppose centuries of experience in creating and polishing a flexible, efficient policy of prices and the entire system of realizing it (a well-adjusted system of economic information, etc.)?

Let us assume that a strategic course of development of the national economy will be worked out for the five-year plan, of the recommended nature. Theory says that on this basis a system of prices and other economic regulators corresponding to it can be worked out. If it is

given a directive nature, will the problems be solved? Alas. If the country is supported only by economic methods of management, the requirements for the quality of prices, their mobility, and flexibility will increase inordinately and go beyond the limits of the potentials for substantiating them.

Prices are an effective instrument when the strategic course adopted also contains directive assignments at least for the most important proportions. Here the level of requirements for prices and other regulators is reduced—they become a support for regulating proportions, and not their basis.

The question of moral stimuli arises. The policy of democratization and glasnost, and other major measures now being carried out in the country, arouse the labor and creative activity of the people and inspire greater hopes. The condition for this progress is the participation of the work collectives in making decisions on ways to improve and develop production and the creation of possibilities for each one to reveal his ability and to increase the work contribution. Widescale economic independence of the enterprises is needed for this. Widescale, but not boundless. Just as democracy does not mean all-permissiveness, so economic independence should have limits in a socialist economy. Beyond these boundaries it simply cannot be efficiently used and will bring nothing more than new problems.

Thus, if one accepts the general thesis that a centralized management system is responsible for the strategy, and the enterprises for the tactics, then it should, in our opinion, be given a different angle of aspect: the economic center develops a strategic course and forms the directive assignments for the products list, determining the basic rates and proportions of the national economic level. The assignments are given with ranges, with a bifurcation. Its lower limit is the basis of the State order. The upper is oriented toward the maximum production potentials of the sectors, in consideration of the tasks of developing and creating reserves. The ranges should be wide enough not to fetter the economic independence of the sectors, and through them the enterprises as well. Only the State order is directive in nature, and the upper boundary is the reference point. The economic incentive is organized within the ranges, and is partially centralized and partially on the level of the sectors and enterprises. Here is the indispensable condition—the particular advantage of the State order, ensured by resources in accordance with a centralized procedure; the rest is constructed on the basis of wholesale trade. The economic stimulation of the State order alone supports it, and is not the basis of its formation, since the State order is directive in nature.

The requirements for the quality of the prices and other stimuli should be fulfilled. Planning with wide ranges is more adequate for the potentials of a centralized system—from the center you do not actually discern it, even though it is supported on the entire hierarchy of planned

and management structures: it is a factor of chance and uncertainty, and the main thing, it is the initiative of the people which it must guide but not fetter.

The ranges of assignments form the boundaries of economic independence, and determine the sphere of use of wholesale trade. The intrasectorial proportions also require strategic management, based on the same principles. For some sectors and types of activity (cooperation, etc.), however, only economic methods of management can be used. In sectors with a high degree of purposefulness, as the result of a developed internal system of technological relations, the significance of the tasks of coordination when forming the rates and proportions is great. Typical of them are—a unified electrical power system and a unified system of gas supply.

They, incidentally, are the most capital- and fund-intensive. The current profit in the overwhelming portion is determined by the level of efficiency of capital investments of 5-10 years ago, and not by the efficiency of the work of the personnel at this time. On the contrary, the capital investments directed toward these sectors have now been bearing profit for a number of years. Regulating the proportions under these conditions on the basis of economic incentive is a particularly difficult task. The bifurcation of the directive assignments here should not be greater than 15-20 percent. Already, for example, in the coal industry, where there are no internal transport technological relations, such as electric power transmission lines or main gas pipelines, the degree of purposefulness is lower and the ranges of the assignments can and should be broader than, let us say, 30 percent. In non-capital-intensive sectors with the predominance of expenditures for current production (machine building and other) they should possibly be even broader. All of this, of course, is a system, but let us look at it from the standpoint of forming the contours of a flexible economy.

The resources centralized at the national economic level can be the source of a possible strategic maneuver to change the rates and proportions of development of the economic system. It is they precisely which determine the limits of strategic flexibility—the sphere of the maneuver. A planned economic system, however, is potentially strong exactly because of this. Here are our important potentials for economic competition with capitalism.

On the other hand, expanding the economic independence of the enterprises increases the tactical flexibility of the economic system. It must be borne in mind, however, that equilibrium in the economic system within the ranges of the assignments, i.e., exactly in the sphere of phenomena of economic independence of the enterprises, will be supported only by economic levers and stimuli, and by the fullness of the wholesale price market. All this leads to the idea that the problem of combining centralism and the economic independence of enterprises is to a great extent determined by the

contradiction between the strategic and tactical flexibility of the national economy, and achieving a compromise in this situation is also a solution to the problem in the channel of forming a flexible economy.

What are the reserves for increasing the flexibility of the economic system? One of them is greater diversity of the organizational structures. They have almost everywhere been built according to army types: line-staff. The national economy, however, with its variety of properties and the special features of the various sectors, is not an army. Overseas, let us say, matrix structures, multi-dimensional, are used, which are particularly effective when supported by economic methods of management. They are more flexible than line-staff. In addition, our organizational structures are typified to such a degree that an unjustified uniformity is created, even though in the economic system management objects with completely different properties are represented. The diversity of the structures is a factor of the flexibility of the national economy. An enterprise should choose its organizational structure at its own discretion—with orientation toward the properties of its object of management. Solutions from the center are necessary only when the economic units have lost their ability to make an efficient choice of its structure, and revolutionary restructuring is necessary. In a normal situation, centralized management should consist only of information support and recommendations as to which is better, which is worse.

The system of economic stimulation—the entire aggregate of levers and stimuli—should also be flexible. Adherents of firm prices (it is not a question of retail prices—that is a separate question) and long-term economic norms do not take into consideration the fact that in a changeable situation, a law of preservation of the "economic substance" is, so to speak, in effect. In reality, if one admits that the entire (as an extreme case) system of economic stimulation in all its parts is stable, and the management situation, as the result of the appearance of the factors of initiative and indeterminacy, is changeable, the only possible way to compensate for the changes lies in efficient administrative methods. The latter, however, are desirable only in the sphere of correcting the rates and proportions, and indeed in limited doses. This means that there must be a possibility of reacting to a change in the situation of the system of stimulation. We must admit, however, that at the same time we will strive to preserve stable norms, in accordance with which, let us say, profit is distributed between enterprises and the state. Then this subsystem will lose the capacity to react to changes. This forces a counter-reaction, however, greater than justified, for example, by prices—after all the changes in the situation are objective and this forces some sort of reaction. The alternative is loss of control.

To form a flexible economic system, a stable nucleus of the system of stimulation must be created, and a zone of flexibility formed. Its scale should correspond to the anticipated changes in the situation in the national

economy. This means that part of the prices or norm should be determined as a stable component, and the other part—as the changeable one.

There are problems of flexibility in forming wages. Creating a higher degree of differentiation between them, and expanding the bifurcation for each position or work category is the means to increase the potentials for maneuvering in this sphere. For greater initiative, obstructions on the part of the stimulation must be removed. If wages are increased in proportion to the increase in commodity production, the balance of the commodity and monetary masses will not change, and this is the main thing.

The course taken toward creating a diversity of forms of production and labor organization, the development of contracting, leasing, cooperation, etc. will contribute to the formation of a flexible economy.

#### Footnote

1. For example, in 1985, with a maximum load of 470 million Kw, the rated power of the electric power plants in the United States was 645 million kw, and the power generated—2760 billion kw/hrs.

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#### Shortcomings Noted in Statute, Draft Law on Leasing

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[Article by V. Rutgayer, doctor of economic sciences: "What Does Experience Prompt?: What Kind of a Law on Leasing Should We Have?"]

[Text] At the Congress of People's Deputies it was noted that leasing relations must obtain legislative reinforcement and that, when working out proposals for the Draft Law on Leasing, we must, first of all, soberly evaluate the recently adopted Statute on the Economic and Organizational Principles of Leasing Relations in the USSR (*EKONOMICHESKAYA GAZETA*, No 19). Could this Statute constitute the foundation of the Law? What does the existing experience prompt in this regard? How do the normative acts previously in force relate to this document?

#### On Two Types of Leasing Relations

Paragraph 16 of the Statute states that, in order to create stable conditions for the work of leaseholders who have made the transition to leasing relations prior to the Statute's approval, they are granted the right to conduct their own economic activity on the basis of previously concluded leasing contracts. But how will matters stand upon the expiration of the contract's deadline? Should a

contract be concluded under the new conditions presented in the Statute? Yes, but they are far from suitable or convenient in every respect for those who became leaseholders prior to this Statute's adoption in April 1989.

The initial, "Pre-April" form of lease provided for the normative-less distribution of cost-accounting income. That is, the labor collective of leaseholders itself disposed of this income. It itself, therefore, decided what portion of this income should be channeled into the production and social-development funds, and which portion should be channeled into wages. It could be said that the normative-less distribution of cost-accounting income constitutes the essence of leasing. But it is precisely this essence which has been distorted in the Statute. Thus, for example, Par. 5 states the following: "A leasing contract shall specify the amount of money (as an absolute sum or as a share of the cost-accounting income) to be channeled into the development of production, science, and technology." Therefore, the higher-ranking organizations, just as before, will be interfering in the intra-management matters of distributing cost-accounting income; they will also be approving norms for withholding money and its contribution to the funds for developing production, science, and technology.

Just what new elements does the Statute contribute to the existing conditions of economic management as compared to the second model of cost accounting? Just one thing—it does away with the requirement to establish norms for withholding money from the cost-accounting income and contributing it to the fund for social development. Thereby a certain interchangeability is achieved between the wage fund and the social-development fund. But inasmuch as wage levels are still regulated by a certain norm sent down from above, such an interchangeability becomes simply illusory. Par. 6 states that "upon agreement of the parties concerned, a contract may stipulate a share of the cost-accounting income to be channeled into wages." And although it does stipulate here the provision "upon agreement of the parties concerned," it is clear that the administrative system will not fail to impose its own will on the leasing enterprise with regard to wages. Otherwise, they would not sign the leasing contract.

To sum up the matter, it turns out that the conditions formulated in the Statute for distributing income comprise a conglomerate of the first and second models of cost accounting. On the one hand, these conditions are keyed on the enterprise's cost-accounting income, and this is inherently characteristic of the second model of cost accounting, inasmuch as the norm for withholding money and contributing it to the fund for the development of production, science, and technology is set in relation to the cost-accounting income. On the other hand, they assume that the norm for wages will be determined from above, and this is characteristic of the first model.

Herein lies a lack of consistency in the Statute. The conditions of economic management being recommended by it can hardly provide an "explosive" effect on causing people to convert to leasing. But precisely such an effect was characteristic of most of the enterprises which previously converted to leasing. It may be explained, to a large extent, by the extreme precision of the "General Methodological Provisions for Leasing a State Enterprise by a Labor Collective" (ECONOMICHESKAYA GAZETA, No 36), as adopted on 17 May 1988 (Minutes, No 115) by the Commission for Improving Administration, Planning, and the Economic Mechanism.

What did this precision consist of? Payments were coordinated with the budget and with the higher-ranking organization; everything else is left up to the discretion of the leaseholders' collective. It is precisely the latter which decides what portion of the cost-accounting income will be allocated for various purposes. There is no such precision in the Statute. The conditions of economic management formulated therein constitute a step backward with regard not only to the initial model of leasing, but also to the first and second models of cost accounting.

Nonetheless, there was a certain, albeit limited, logic in the approach taken by the developers of the Statute. It was evoked by the dangers that, unless norms were set for contributions to the cost-accounting fund, "everything would slip through"; most of it would be channeled into wages. But this was purely speculative. The experience undergone by the collectives of leaseholding enterprises directly attests that, having freed themselves from the toils of the normative dividing up of earned, cost-accounting income, they have intelligently allocated funds for increasing wages, while also calculating for future production and social development. It was frequently the case that the growth of these funds was even less than had been provided for by the normative correlation between the growth rate of labor productivity and paying for it. Setting the norms from above regarding the conditions of distributing cost-accounting income will once again confine the interests of the labor collective to everyday concerns about wages. But the advantages of leasing as such lie precisely in the fact that the workers themselves begin to think about the future.

Thus, the Law on Leasing absolutely must establish a requirement for the normative-less distribution of a leasing enterprise's cost-accounting income. All the more so in that the approach proclaimed in the Statute about the mandatory regulation of the cost-accounting income being received by a leasing enterprise contradicts the principles of organizing family or individual types of leasing. With regard to such a form of lease the Statute says (Par. 34) the following: "Money earned from the sale of products (as well as work or services) after the leasing payment, taxes, and loan payments to banks have been made, shall be for the leaseholder to dispose of

independently." This should also apply to any kind of lease. It is precisely in the independent disposition of one's own income that the new rights of a leaseholder manifest themselves.

#### On Amortization Allowances

In accordance with Par. 8 of the Statute, "the lease payment shall include amortization allowances to fully restore the fixed capital and money for the repair fund." The size of these allowances is set depending upon the "degree of the leaseholder's participation in the reproduction of the fixed capital."

In our opinion, it is utterly wrong or even illegal to include amortization and money of the repair fund in the leasing payment. In its essence, the leasing payment constitutes a portion of the profits obtained from the functioning of an enterprise which has switched to leasing. With the aid of the leasing payment, the leaseholder takes part in the distribution of the cost-accounting income which constitutes the enterprise's excess earnings over the aggregate production expenditures.

The Law on State Enterprises notes that an enterprise "shall utilize amortization allowances independently" (Art. 3, Par. 3). The same also applies to the repair fund (Art. 3, Par. 6). And this is perfectly correct. Because, after all, the basic condition of an enterprise's self-financing and cost recovery is its carrying out, first of all, simple reproduction by means of its own resources. But if these processes are organized by a higher-ranking economic unit, then there can be no talk of an independent leasing enterprise, but rather about the sub-division of an enterprise or an organization. It is completely natural, then, to also remove the amortization allowances and the money for the repair fund.

The amortization allowances (just like the deductions contributed to the repair fund) should not be taken into account when calculating the leasing payment. Nevertheless, an enterprise can transfer a portion of its temporarily freed resources of the amortization fund to a higher-ranking economic-management organ in return for an appropriate payment or service. For example, for services involving the repair of fixed capital items.

#### With the Consent of the Higher-Ranking Organ...

How can an enterprise's collective convert to leasing? Based on Par. 1 of the Statute, it has the right, with the consent of the higher-ranking organ, to form an organization of leaseholders as an independent person in the eyes of the law for the purpose of leasing the property of a state enterprise.

Prior to the adoption of the Statute the principal actor in converting to leasing was the labor collective of an enterprise. It was precisely this unit which also functioned as the ultimate instance in making the decision

about leasing. In the Statute a new leasing subject makes its appearance—an organization of leaseholders. But how do they differ from the labor collective of a leasing enterprise?

The Statute goes on to say that the "highest administrative organ of a leaseholders' organization is the general meeting of leaseholders, which shall elect the council (board) and its chairman." The following question arises: what relationship will the leaseholders' board and the labor collective's council have toward each other? That is still unclear.

In our opinion, the requirement to form a leaseholders' organization as a person in the eyes of the law is far-fetched. Because, after all, the enterprise has the status of a person in the eyes of the law. And its development is ensured on the basis of the socialist self-government of the labor collective (Art. 6, Par. 1 of the Law on State Enterprises). This is fully sufficient for the labor collective itself can function as a fully entitled participant in contractual relations with respect to leasing its own enterprise. So why do we need a leaseholders' organization here? Furthermore, this organization, even before forming leasing relations, must prepare a draft contract on transferring the property of the state enterprise to be leased (Par. 2). But just how can a leaseholders' organization be set up, and how can it solve certain problems if there are, essentially, no leasing relations? All this is within the competence of a labor collective and its council. The labor collective and the council elected by it should enter into contractual relations with the higher-ranking organ.

According to the Statute, the leaseholders' organization is founded with the consent of the higher-ranking organ. To our way of thinking, this is a misunderstanding. Any organization at an enterprise can be founded upon the decision of its own employees; and this would include a leaseholders' organization. It is another matter, and, most likely, this was what they had in mind, that in order to lease one's own enterprise, consent from above is required.

But it is precisely this point which evokes objections. Higher-ranking administrative units are extremely unwilling to consent to their sub-departmental enterprises being leased. And this is understandable. Polls taken on the leading officials of leased enterprises have convincingly attested to the fact that, under leasing conditions, they do not experience the former need to be administered from above. And the administrators in the main administrations and the ministries understand that a leased enterprise—no matter how sudden—is a "self-supporting entity." And so consent to lease is frequently just impossible to obtain from higher-ranking economic organs. "You are not yet mature enough to lease,"—this is what is heard most frequently by those who wish to lease their own enterprise.

The observance of this requirement, without any doubt, will retard the spread of leasing relations. In our opinion, the Law need only state that the conversion to leasing requires the consent, let's say, of  $\frac{2}{3}$  or  $\frac{3}{4}$  of the members of the enterprise's labor collective. If there is such a consent, then the higher-ranking economic organ would be obligated (!) to turn the enterprise over for leasing to the labor collective involved.

### Relations of Property Ownership

For leaseholders who converted to leasing prior to the adoption of the Statute the former conditions of economic management are retained. And the main thing in them is the fact that the labor collective leases an enterprise as a whole. In this respect there is quite a substantial difference from what the Statute provides. It proceeds on the basis of turning over to a leaseholders' organization the "property of a state enterprise" (Par. 1).

In my opinion, the difference between leasing property and leasing an enterprise consists of the fact that, in the former instance, the relations of property ownership do not, essentially, pertain. But when an enterprise is being leased, these relations come to the fore, so to speak.

A substantial shortcoming of the Statute consists of the indefiniteness of the ideas about the tendencies of the development of property-ownership relations when leasing property. On the one hand, it is asserted that "the property of a state enterprise turned over for leasing to a leaseholders' organization remains the property of the state" (Par. 5). On the other hand, that the items produced by the leaseholders are their property (*loc. cit.*). And so, when the products obtained by the leaseholders are transformed into fixed capital, the latter should automatically become their property. However, the Statute does not talk about this. Instead, it contains the following, not quite definite characterization: "In order to increase the motivation members of leaseholders' organizations to create new producer goods to be determined in the leasing contract, a portion of the newly created funds within the fixed capital may be put aside every year into a special fund—the shared fund for members of the leaseholders' organization." (Par. 12)

The motive for forming this shared fund is, in my opinion, extremely narrow. It is not clear how things will stand with regard to the renewal of working, producer goods. Furthermore, the formation of the shared fund is not at all mandatory. And on whom depends the transformation of the possibility of actually creating it? Judging by everything, it would be the higher-ranking organization. Because, of course, the creation of a shared fund must be stipulated in the leasing contract.

Now widespread at many leasing enterprises are stock shares in the labor collective. They are bought up by the employees themselves. Dividends are paid out on these stock shares. Just how does the stock-share form of attracting the monetary assets of employees differ from

the formation of a shared fund for the members of a leaseholders' organization? One difference may be ascertained. The sum of the payments on the stock shares is determined by the total value of the latter. But receipts from the shared fund of the members of leaseholders' organization are ascertained proportionally to their labor contribution (Par. 12). But if this is so, then why, in the case of a leaseholder who leaves the organization, can he retain the right to receive his share of the income? What condition does it depend upon? Because, after all, an employee who has left a leaseholders' organization cannot have a specific labor contribution. Therefore, he should have an income dependent upon upon the size of the share, that is, in accordance with the principles of receiving an income for his stock share.

All this confusion is taking place because the Statute does not provide for various possibilities of an unequal property-ownership status for the increase of the producer goods of a leased enterprise. During the period of the lease these funds grow by means of the leaseholders' own funds. And, consequently, they have the right to acquire them. Let us allot them, at least, by the following possibilities.

First—transforming a portion of the value of the increase in producer goods of a leased enterprise into the stock-share form of property ownership. A portion of the value of the producer goods is renewed and expanded by means of the monetary assets of the employees. In principle, it is possible to distribute the remaining portion of the producer goods between the leaseholders, the labor collective as a whole, and, let's suppose, the local Soviet also on a stock-share basis. The right to income from shares could be retained when employees retire on pensions or passed on by inheritance.

Second—the formation of collective property ownership. One of the ways to form this would be for the labor collective to buy up the enterprise. In contrast to the stock-share form, which provides for a differential measure of participation by individual employees in forming property ownership, within the framework of collective ownership each employee would have a share equal to the others. This means that his participation in the enterprise's affairs would be based on the formula: one share—one vote, in contrast to the stock-share formation of property ownership, proportional to the following, different procedure: one stock-share—one vote.

Under the collective form of property ownership, the aggregate results would be distributed in accordance with the labor activity involved. And the share of each participant in the collective property ownership would depend upon his labor contribution to the achievement of these results, that is, it would be established in accordance with the amount of wages which is regarded as the measure of such a contribution.

A third possibility—is to retain the previous status of a leased enterprise as being included within the state property ownership. But the labor collective has the right to claim, as provided for in the Ukase of the Presidium of the USSR Supreme Soviet entitled "On Leasing and Leasing Relations in the USSR," reimbursement for expenditures for improving the leased property. How should such reimbursement be carried out? Its mechanism is not revealed in the Statute.

All these questions involving the transformation of property-ownership relations within the framework of leasing a state enterprise have merely been outlined here. Therefore, in the Law on Leasing we need to reply to them very precisely, as well as to present the property-ownership status of the increase in producer goods.

### **Academician Urges Less Control Over Economic Mechanism**

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[Article by Nikolay Petrakov, Corresponding Member, USSR Academy of Sciences: "Economy and State"]

[Text]

#### **Initial Cause of Economic Crisis**

The most grievous legacy of the Stalin epoch, a legacy felt everyday, literally, by all strata of society, is the sickly, crisis state of our economy. The economic policy of the stagnant years only aggravated the situation, since, appraising the growing economic problems, the leadership of the country decided, at this time, to limit themselves to superficial therapy with the use of the usual methods of administrative pressure. The result was certain: not one of the problems was solved, the inherited economic illnesses of the period of the cult of personality were worsened and became more explosive. The main thing was the loss of control over the dynamics of social and economic processes. It came to this that not only the general public but also the main leaders of the country did not fully understand the real situation in our economy. "It is necessary, comrades, speaking frankly," emphasized M. S. Borbachev at the 19th Party Conference, "to emphasize that we grossly underestimated the depth and severity of deformations and stagnation of the past years. Quite simply we did not know and only now are we realizing that the neglect of matters in different spheres of the economy were much more serious than we had supposed at first".

However, real life goes on whether we want to know something about it or, like an ostrich, stick our head in the sand upon the rise of the smallest troubles. However, reality consisted in the fact that, during the vast concentration of economic authority, during practically unlimited possibilities of solving problems of any scale centrally, from above—from construction of the Baikal-Amur mainline and the placement of atomic electric

power plants to production of tooth paste and children's items—the country's economy went out of control. If you judge by the end results, the conformity to plan of development of the national economy, which we long and habitually took to be self evident, appeared to be rather strange. We had become accustomed to lines, to interruptions in the supply of goods which just yesterday were generally available. All of this shows individual shortcomings of specific departments and persons. They obviously are poor planners. We will order and we will substitute and everything will be fine.

It is true that here already the man in the street is quite aware that, for 10 years, there are no refreshing beverages in summer and before holidays; the champagne disappears before New Years Day; there are no life jackets before the bathing season, no notebooks before the beginning of the school year, etc., although, it would seem that to foresee and plan the provision of these items would not cause any quirks in fluctuations of public supply of other items. If this is not included in plans or is not considered in "full measure," this means that chaos and disorganization are being planned consciously!

Planned chaos! Nonsense? We have lived it for a large part of our lives. Then what is it: sabotage or incompetence of bureaucrats? The old may fit even the arch demagogue only for characteristics of each separate case. You know the economic information showered on us in recent months speaks about something global and applicable to the entire economy.

The State budget deficit of the country has reached almost 100 billion rubles. Information about the vast budget deficit is important not only because thereby the zone of "glasnost" in the sphere of economic life is expanded. "Glasnost" is not necessary for the sake of "glasnost" in the same way as production for the sake of production in the economy. The indictment (kept silent for many years) of the entire practice of State planning and administration of the national economy is important. The scales of the budget deficit give a basic picture of the artificial disproportions, created by the entire system of administration as a whole. Precisely as a whole. Already, there is no sense in trying to discover an individual scapegoat at the national economic level or to refer to a switchman; here the entire system of administration of the national economy is responsible.

We less and less recall the majestic thought of V. I. Lenin concerning socialism as an economic system which guarantees the highest national labor productivity and, consequently, the highest level of well-being of the people. Of course, it is somehow inconvenient to remember this when we are lagging far behind the West, Japan and even South Korea in the area of scientific and technical progress. However, you know these are the fruits of many years of activity (it is not appropriate to say "work" since this word assumes the receipt of useful results). Even at the end of the 1950s, it turned out that

planning agencies "looked over" progressive structural shifts in development of the energy and fuel complex. Then these "reviews" were repeated with painful regularity in relation to microelectronics, computer technology, biotechnology, dieselization, laser technology, technology of processing ferrous metals, machine construction etc.. Isn't this why, in the final analysis, consumption per person in the USSR is, in comparison with that in the USA, 50 percent for meat, less than 50 percent for fruits and vegetable oil, 14 percent for durable goods, 30 percent for textiles, 27 percent for furniture and 5 percent for automobiles. All of this is "consumed" by us after standing in line and using different kinds of orders and coupons in shops. But, in return, we consume 104 kg of potatoes per annum per person, surpassing the native land of the potato (there, they eat 58 kg per person per annum). Everything is also "well" with us in regard to sugar at 42 kg compared to 29 kg in the USA.

All of this is the result of the State system of administration. We may say: we did not want this or we did not want this at all! This is worse. It means we do not know what we are creating. You know we created everything ourselves except the natural calamities and some "imperialist intrigues," we made plans, successfully fulfilled them and even overfulfilled them but we corrected unreal plans and also overfulfilled them. But, you see, we obtained a picture far from that which V. I. Lenin saw. To ignore this deep disparity between what we tried to do and what we did do means willingly or unwillingly to rehabilitate the developing system of management of the economy. I think that the administrative-command methods and forms of regulation of economic life, dominating for many decades in our country, are only the logical consequence of the shameful interpretation of the profound thought of the concept "administration of the socialist economy" itself.

This is the result of the adopted concept of planning of the economy. I am convinced that the principle of maximum economic effectiveness never (in the last 60 years) did underlie this concept. Therefore, the methods used are not directed at achievement of the ultimate economic result. The means fit the goal.

However, are we not going too far into this problem, especially when we are speaking about the latest years? You know, recently, talks about scientifically based planning, about selection of the most effective solutions, about proper formulation of social and economic goals and the search for rational means to achieve them became frequent. Yes, all of this is so. But do we not observe here some kind of confusion or lack of understanding? Let us say an enterprise issues production which is in considerable demand and, at the same time, is inexpensive. Well, let it be issued in health. Let there be expanded, at the expense of its own profit and credits, construction of homes for workers and engineers. What is the role of the State here? To levy taxes? Agreed. But why is it "scientifically sound" to interfere in economic

matters from above. That is a question. Frequently, they answer it in the spirit that, they say, the enterprises must help with supply, in the search for business partners and in compilation of plans of scientific and technical development. Well, this is quite proper. But, you see, all of these are intermediary functions or, in any case, those which must be fulfilled on a profit and loss accounting bases ensuring equal rights. The superior in the administrative hierarchy exists in order to give directives to the subordinate. However, if economic matters are going well, than any order from above which disturbs the harmony creates a loss of economic effectiveness. If an enterprise's business is going poorly, does this justify State intervention? No. You see banks and even subcontractors may help on a strictly economic basis. If help is irrevocable, a complex problem of its advisability arises. The State now spends 11 billion rubles annually on coverage of losses of enterprises. The source of these funds is well known; they come from efficiently operating enterprises.

At the 27th Congress of the CPSU, it was determined to resolutely overcome unfavorable tendencies in development of the economy, to impart the needed dynamism to it and to widen the scope of the initiative and creativity of the masses by genuinely revolutionary transformations. The formulation of the question itself indicates a return to the Leninist interpretation of the correlation between politics and economics. It was said at the Congress that this is a task which the Party and all the people must solve.

What should be the contribution of State institutes to its solution? How should their functions and structure be transformed? These questions are so vital today and so intricate. The range of points of view was unprecedented; from a return (preservation?) to the Stalinist concept of the economic role of the State up to proposals for complete rejection of the centralized system of planning. Such polarization of views is regrettable since it does not foreseen rapid completion of the discussion nor a constructive approach to the solutions of the real problems by the disputants. However, the developing situation is completely explainable. Extremism in expressions is fed, on the one hand, by the fact that, when only a few "let go of the reins," all economic weak spots, herded inside for so long, flew out into open view; and, on the other hand, the centralized State system of management is responsible for all, literally for all, gaps and disproportions in the economy, for the destruction of nature and high childhood mortality, for neglect of the social sphere and the industrial infrastructure, for there was none other to blame for more than half a century. This is historical truth. We shall add only that responsibility should be justifiably charged not to the idea of centralized State action on the economy itself but on the Stalinist form of realizing it. In order to sort out the idea from the interpreter and determine in what link the falsity occurred, we shall make a short historical excursion.

### A Voice from the Past

The role of the State in the economic life of the country was discussed at all levels: from Party congresses and student seminars over the entire period in which history set free the New Economic Policy. Politicians, scientists and business executives participated in discussions. They quarreled hotly but rationally. No one denied the necessity of planning the Soviet economy. Such unanimity is even more remarkable since not only Bolsheviks with revolutionary fervor but also professional financiers, bourgeois "specialists," enlisted in the work of the Soviet regime. They differed greatly in training and experience. These were people trained, basically, on bourgeois economic theories and having previous knowledge of the practice of capitalistic management. So, they were not simply adherents of a planned economy but actively participated in practical work on State regulation and balance of the developed post-revolution national economy, stabilization of the Soviet monetary system and, later, in compilation of the Five-Year Plan. Then what were the quarrels about? They concerned goals and possibilities of intervention of the State in economic life, reasonable and maximally permissible limits of State regulation, rational relationships between internal principles of functioning of the economy and external goals, which politics placed before them. As we see, now we have come to these same problems. They remain open and vital for us because the present level of their practical solutions cannot satisfy us in any way.

The diversity of views and nuances in the positions of different economists on the above named problems was impressive. This was a natural but not a forced pluralism of opinions, behind which stands profound intellectual work of actually original thinkers. However, there gradually occurred a crystallization of positions and the appearance of two points of view. Some scholars and specialists, while completely preserving individual features of their own position, agreed with the idea that planned activity of the State should involve the creation of maximally favorable conditions for revealing internal regularities and possibilities of the economy. Before placing any goals before the national economy, they discussed, it was necessary to put it on its feet, to create normal conditions of life, to make it possible to open internal potentials and, in the future, stimulate, by economic privileges and advantages, progressive phenomena from the social point of view and processes of economic life and, thereby, limit development of the economic organism in undesirable directions, inflicting (or able to inflict in the long run) damage on other spheres of human activity or the environment.

Persons who were intelligent and professionally literate, for the most part, disagreed. This was an argument from which truth should be born, without fail. It was born and was clearly fixed in the decrees of the 14th and 15th Party Congresses.

I shall give, as an example, one excerpt from a resolution of the 15th Congress on compilation of the Five-Year Plan of the national economy: "In the area of relationships between **production and demand**, we must keep in mind that it is impossible to proceed from **simultaneously** maximum figures of both of these (as the opposition now demands), for this is impossible. We must proceed from an optimal combination of both of these items."

"We also must speak in relation to the town and the village, socialist industry and peasant agriculture. It is inappropriate to proceed from demands for maximal transfer of funds from the sphere of peasant agriculture into the sphere of industry, for this demand means not only political rupture with the peasantry but also disruption of the raw material bases of industry itself, disruption of domestic trade, disruption of export and disturbance of the equilibrium of the entire national economic system." Many other appropriate things were said. For example, it was said that it is impossible to squeeze out superhigh rates of growth of heavy industry since this leads to their decline in the long run because of the inevitably created, by such a policy, disproportions, which must be remembered concerning light industry, which, considering the rapid circulation of its capital, may serve, under conditions of its rapid development, as a stable source of funds for industrialization. "Only consideration of all of the above-mentioned facts and planned coordination of them," the Congress resolution stated, "will make it possible to lead the economy along the path of more or less planned and more or less crisis-free development."

All of this was adopted by the Congress on 19 December 1927. But the leadership did not come to life. The goals and tasks of planning of the national economy stated by the Congress, and the role of the State in changing economic proportions and supporting a dynamic balance was cynically rejected by Stalin, which staggers the imagination even after a lapse of 61 years. Stalin made his first concentrated attack on logic and the laws of economics at the time of his journey through Siberia in January 1928, that is, within a month after the Congress. The occasion was an extremely pragmatic problem, emerging, at first, as an important and painful problem but still a relatively particular, or in any case, certainly, a temporary problem against the general background of social and economic life. The issue concerned the difficulties in grain-collecting, arising in the winter of 1928. While the State purchased 428 million poods of grain from the peasants by January 1927, they purchased 128 million poods less by January 1928. What to do? This is not a simple problem. In view of this, it is very interesting to trace the course of thought and actions during solution of this kind of problem by the "Stalin type" managers on the example of the standard sample, that is, Stalin himself.

Thus, the prosperous peasant keeps his grain; he does not want to take it to market. Why? The first cause, which we may say is purely superficial, is that he is waiting for

springtime; it is common knowledge that the cost of grain is always higher in spring. The second, more serious cause and, to be exact, the main cause, is the trade deficit. Industry supplies the rural market with completely inadequate amounts of textiles, footwear, kerosene, construction materials, fertilizers, churns, separators, etc.. In view of this, something disappears completely from counters of village shops and things become more expensive. The reply of the peasantry is natural and completely within the laws of the country; this is an economic response to an economic problem. A disturbance of commodity circulation is a signal of aggravation of disproportion between the development of industry and agriculture. The 15th Congress of All-Union Communist Party (Bolsheviks) noted this disproportion and called for an orderly approach to smoothing it out by economic methods and, later, to eliminate it. The high yield of 1927 required that special attention be given to light industry. It was necessary to give grain for a product of the town. This was necessary in order to maintain the value of the 10 ruble banknote. Briefly speaking, there was examined the possibility of adjusting commodity circulation by flexible economic measures and all the more so since the grain holder, the well-to-do peasantry, was not some kind of organized peasant monopoly but was in the form of thousands and thousands of peasant households scattered throughout the entire country. In this situation it was possible, even at the same volume of market allocations, to make effective a differentiated regional policy of the State for delivery of commodity resources in the grain growing regions of the country. It was necessary to think and to consider.

But the course of thought of the general secretary was flowing in a completely different direction. If they do not want to sell, we must make them sell (Is this not a wild statement?) and if they still refuse to sell, take it away, confiscate it. The rule of the predator: act quickly while the victim is unaware. Instantaneously introduce a whole "bouquet" of repressive measures: confiscation of grain surpluses without any court examination, suppression, at first, of the intra-village market and then the general "free" grain market, searches to find surpluses, anti-profiteer detachments, forced distribution of peasant credit during calculations for grain and introduction of direct product exchange. All of this was taken by me from Decrees of the April Plenary Session of the Party in 1928. The Plenary Session considers that these measures "require the most categorical revocation" and "actually are a slip on the rails of the surplus appropriation system."

Thus, such scale actions of Stalin were not only not supported by the Party and the government but were blamed extensively. But the blame is a back issue. The deed is done. It pleased Stalin. Within 2 days after the Plenary Session, he reported "successes" of the procurement campaign after adoption of extreme measures by Moscow Communists: "It is common knowledge that, during 3 months (from January-March) we were able to

procure more than 270 million poods of grain." Remember: this was during a deficit of 128 million. We exceeded what was demanded by more than two times. Excellent! Appetite comes when it is time to eat. This shows the effectiveness of extreme measures in comparison with economic measures.

However, the logic of economic life indicates that low or moderate taxes may be collected as long as is desired but extremely high taxes may be collected only once. The response of the peasantry was immediate. This turn of events by the lawless regime was answered within the framework of legality (evidently, there was great respect for the "legal State" and interest in it). The answer was a reduction of area sown and sale of equipment (self dispossession of the kulaks) and flight to the city. Grain collection was impeded again. In 1929, in spite of ever intensifying pressure, they collected less grain than had been collected in 1928. Ration cards were introduced and this in peasant country against the background of bumper crops for years in a row. The extreme measures disrupted the agricultural economy; the blow to the economy was reflected in the standard of living and created dissatisfaction among the people. There remained only one of two courses of action: either bow the head before the inexorable or resort to terror. After brief hesitation, Stalin and his closest accomplices chose the second path. Instead of a union of workers and peasants, steps were taken to eliminate the peasantry by means of physical repression of some and the conversion of others into farm workers, not hired workers but workers attached to the land by extra-economic methods. These farmers were called "collective farmers."

Stalin thought the use of these extreme methods brought complete and unconditional victory.

The main thing is to set the goal and demonstrate the will. This makes up the alpha and omega of administration and shows the advantages of the socialist State and centralized planning. These "methods" were quickly carried over into the sphere of the national economy, especially into industry. The tasks of the Five-Year Plan, already adopted by the 16th Party Congress, were quickly reviewed. Provide rates of growth of 20, 35, 45 percent! Fulfill the Five-Year Plan in 4 years! Some sober voices were lost in this intoxicated omnipotence of the regime. Among these, the prophetic words of N. I. Bukharin are now interesting. He warned, as early as 1928, in his "Notes of an Economist": "It is possible to beat one's chest, vowing and swearing industrialization, and to curse all foes and adversaries, but this does not improve matters one iota. It is possible to rely on the rule: 'perhaps we shall rush by!', possibly play odd and even, 'ask riddles,' etc., but, alas, objective relationships will still creep out into God's world for you cannot build today's factories with tomorrow's bricks."

In 1931, this warning attracted no attention. It is being echoed more painfully in our hearts and, excuse the expression, in our guts, in 1989.

However, Stalin and his cruelties, statistical ropewalking and political demagoguery disappeared into thin air. But what are we to do with his understanding of the economic role of the State? Were we liberated from the anti-economic method of thinking which was implanted for 10 years? Where is the real "increase of scientific validity of our plans" if disproportions continue to emerge from all corners and cracks. You know, according to Lenin, conformity to plan is constantly and consciously supporting proportionality.

Now we are placing great hopes on the economic mechanism. Why is this? In my opinion, this is the creation of such an economic climate in which economic laws manifest themselves in natural, emancipated form. What is advantageous takes root and what is disadvantageous is rejected. Who works more and harder consumes more. The right of selection of economic partners, the structure of production and consumption are regulated by economic effectiveness and revenues. If such a climate will be created (and, you know, it seems we want this), shall we accept directive planned instructions and do what is required at the time? If, let us say, a new technique is effective, shall we accept plans for its mastery and introduction? A plan considered as a simple duplicating system of economic interest is, I shall say openly, not very natural and is too superficial for society. Then, is it possible that planned tasks should come into their own in those cases in which it is necessary, proceeding from "higher advisability" to take economic interest by the throat and carry out the matter in spite of it? This is an interesting thought. But, as we have seen, it is not new. The "extraordinary" returns. Where is the boundary here between "reasonable limitation" and total permissiveness?

Thus, we are returning to the fact that nothing is more vital at today's stage of reconstruction of the system of management of the economy than to find a place for centralized planning in it. We officially declared war on the administrative system but it cut the umbilical cord of centralized planning and distribution in their Stalinist interpretation. Is it any different today?

#### Law or Instruction?

The Law concerning the state enterprise has been in effect for 2 years. Now all associations and enterprises operate within the framework of this law. There is a law concerning cooperation but what laws regulate the activity of ministers, Gosplan, Goskomtsen, Minfin? It seems that departmental instructions and government directions are continuing to reign there. We say, there is no problem, state law is always higher than departmental instruction. A vast number of instructions which contradict the law have already been abolished or changed. Nevertheless ... First, the law concerning enterprises is rather vague in many places and departments give these places more definite, unambiguous interpretation in their instructions. Enterprises do not have the same right. Second, the law, for unexplained reasons, contains

no clear-cut legal description of procedures for resolving conflict situations. Third, a more clear-cut legal formulation of the rights and obligations of superior agencies and economic departments would be desirable. What can be required of them in a legal sense and where does their economic security end?

The absence of a clear-cut legal formulation of the functions of higher planning agencies may lead to lack of efforts at perestroika of the economic mechanism. For example, Gosplan actually combines the function of developer and user of national economic plans. The fact that five-year and annual plans are considered and confirmed at USSR Supreme Soviet sessions practically changes that little since, after discovery of the status of the law by the plan, Gosplan remains the actual holder of the resources. Without its sanction, the ministries and the departments cannot realize their right to use the resources allotted to them in the plan. Moreover, Gosplan may, without consent of the Supreme Soviet, introduce operative corrections and more precise definitions in a plan already confirmed. It is accurate to say that these "more precise definitions" frequently are measured in hundreds of millions of rubles but that in billions of rubles. Of course, in Gosplan, there is the wide possibility of intersectorial and inter-branch redistribution of allocated capital investments, since the Five-Year Plan is approved in aggregate form without detailed breakdown. Therefore ministers and directors of large associations "walk under Gosplan" not only in the period of development of five-year plans but constantly. The vast throughput office of Gosplan resembles the cash room of southern shops with the difference that this human crowd is seen not only in the summertime but all year round.

We shall mention another burning "economic-legal" question: who should fix tax rates and payments into the budget from incomes of enterprises, cooperatives and the public? In the overwhelming majority of countries, this is a function of higher State agencies. In our case Minfin does this or even sectorial ministries, fixing the so-called standards of distribution of profit of enterprises sub-departmental to them. Such legal confusion on such an important problem led to the well-known excess in connection with taxation of cooperatives. Of course, to whom should USSR Gosbank be subordinate—the government of the Supreme Soviet? A heap of such problems is accumulating. That which did not matter in a totalitarian state becomes vital in a legal state.

The movement toward creation of a legal state is unthinkable without creation of clear-cut, laconic economic legislation. No participants in economic life may be placed outside of the zone of unified legal norms. This is a necessary condition of realization of the new concept of planning. What are the main traits of such a concept?

The new concept of planning should be based on a clear understanding of the fact that the effectiveness of administration depends upon the rational distribution of

administrative functions. There absolutely should not be any doubling of these functions, which engenders, in the final analysis, irresponsibility, dependence and alienability from the results of administrative decisions, and clear-cut division. Assignment of any functions of administration to a superior link, that is, a transition from self government to government from "above" should be strictly limited by the rule of **minimum sufficiency**. I shall explain the essence of this rule. The center concentrates in itself those and only those administrative functions which cannot be fulfilled by a subordinate link of the economic system because of its limited competence. Let us say problems of the defense potential of the country or of demographic policy cannot be solved at the level of a boot factory. However, on the other hand, problems concerning selection of the assortment of output production, raw material purchases, expansion or modernization of production should be solved by the collective and the factory administration independently (of course, under conditions of output of the factory to the consumer). It would seem, obviously, a simple rule. However, we can sometimes forget the ABC's! The history of the rise and development of the state shows that czars, kings, conquerors and usurpers imposed taxes on their own subjects but exacted tribute and contributions etc. from the subjected peoples. The taxes could be divine and heavy. The peoples complained under their burden and sometimes revolted but not one ruler even thought of dictating to his subjects when to plow, when to sow and when to harvest. All the more, no government promised the people to feed it—little by little it itself was fed by the people. Only Stalin, for the first time in history of humanity, proclaimed that the Soviet State knows better than the producers what to produce and better than the consumers how much and what to consume. However, what saddens and amazes us today is not the self-conceit or illogic of the leader but the immensity of this scheme still haunts us even today. Our government actually continues to bear responsibility for empty counters of shops, for shortage of any article and for the level of prices and incomes as it did half a century ago. Why? Because it took upon itself the solution of all problems. Now the people expect answers.

Speaking briefly, in regard to the economic sphere, the State is occupied up to this day in what is completely none of its business. What real business does the central regime have in management of the economy? Very important, very responsible and, as you now are being convinced, very neglected. The first and main problem with which nobody but the government can deal is the strategic forecasting of the development of science and technology, the assessment of possible social and economic consequences of scientific and technical progress from national positions and long-range planning of development of the national economy. Almost everyone acknowledges the role of the government in this sphere. Nevertheless, practically, this work is being conducted, speaking kindly, unsatisfactorily. Constant errors in selecting priorities (about which we already spoke above)

are explained by the absence of reliable analytical instruments and models and, mainly, the constant attacks on current problems. The primacy of the current over the long-range in planning creates a trap for thinking. The long-term structure of the economy is constructed automatically as the current structure but with patched up holes and embroidered bottlenecks. It is just not appropriate to find nothing new in such a scheme. The alleviation of existing shortages is the limit of dreaming of the "strategic developers".

The second problem, the solution of which lies, basically, on the shoulders of the State, is the problem of creating an industrial and social infrastructure. Transportation, communication, a network of cultural institutions and an economic base for health care and education should be developed on the basis of a unified concept.

The third set of State concerns of a different kind are social guarantees, especially for those groups of the population which, for one or another reason, cannot be involved in socially useful work or whose work does not bring in income sufficient for a suitable existence. Here are unsolved problems of wealth. In a country where the authority has passed to the workers, it was assumed, for some reason, to be improper to consider an indicator of a minimum living wage. Possibly, because of the fact that each person was assumed to be master of the entire country, therefore, a priori, rich? We must add to this the fact that the pension system and forms of financing the care and development of nursing homes, homes for the aged and invalids, family assistance for those with large families became obsolete long ago. Apparently, diverted by other matters, the "state hands" did not always quickly reach out to the old, the ill and the poor. Now ever more fashionable are social organizations, voluntary donations, public philanthropy from the wage fund itself which, for us, makes up only 36.6 percent of the national income, created in industry (against 64 percent in the USA).

Finally, the fourth problem which the State is obliged to solve is the maintenance of a sound monetary and financial system. The money system always was controlled by the government. It coined money and printed banknotes. The monopoly of the state in this region always was considered to be proper, perhaps the only variety of economic monopoly which was never protested by anyone. The activity of our government in this sphere, as we now know, did not succeed. Again it was not equal to its direct responsibilities because it took upon itself a multitude of matters, which others may handle completely and much better. "If you speak practically," noted M. S. Gorbachev on this occasion at a meeting of workers of science and culture, "the most urgent and acute problem of the center is the guarantee of the balance of trade and the regulation of financial relationships." Here is the proper understanding of the role of the center at the present-day stage of reconstruction of economic relationships. The center should create

normal conditions for free economic activity of profit and loss accounting enterprises and not interfere in their daily activity.

In view of this, we must turn the reader's attention to a curious item. At the last session of the USSR Supreme Soviet, it was reported, by the deputies, that the press of centralized pressure on enterprises and associations will be greatly reduced in 1989. How will this be expressed? First, in the pronounced reduction of the percent of the state order. The state order in machine construction will be 25 percent as compared to 86 percent in 1988, in metallurgy it will be 42 percent as compared to 86 percent, in the Ministry of Light Industry, it will be only 30 percent as compared to 96 percent in 1988. Second, the number of centrally distributed resources will be decreased from 5100 items to 546 items, that is, more than 9-fold. Third, capital investments at the expense of funds of enterprises now make up 47 percent of all investments in industry while, previously, they scarcely exceeded 38 percent. The figures are impressive. They should indicate the pronounced expansion of the independence of enterprises.

However, I have the courage to say that these steps will lead not to the expansion of economic independence of enterprises but to even greater enslavement of them, to intensification of disproportions in the national economy. All of this happens because the weakening administrative methods and levers of control "forgot" about the creation of trade. The portion of the state order in machine construction is being reduced to 25 percent. Very good! But hold the applause. Does this mean that the remaining 75 percent will be free to buy means of production on the wholesale market, even at fair prices? No. There is no provision for a guarantee of balance of supply and demand neither in "extra-order" machines, nor metal, nor textile fabrics.

That which now is called wholesale trade or means of production actually is only different forms of rationing distribution where the role of the middle link of administration is greatly intensified. Trade without a market is absurd. Actually, the bidding of the producer does not disappear but will be realized at a lower level in "infighting" with the consumer. In this hand-to-hand fighting, the strength of the producer, based not on the quality of its production but exclusively on the absence of a balanced market, shortage and monopoly may appear in exotic forms and take on a special severity.

A critical moment now arises in the course of reorganization of the system of administration of the economy. The center frees itself from overloading. This is appropriate. However, the shift of part of the administrative functions does not go straight to associations and enterprises but settles in the ministerial link. This objectively intensifies it (how much to extend, break into smaller units and reduce staff) and makes this link necessary and even vitally important. You know it is precisely the sectorial ministries which make up the core of Stalinist

state control of the economy. They are inwardly adapted for carrying out "extreme" measures, which infringe upon the economic logic of development. Evolution of the ministerial system of administration occurred only in the respect that if, earlier, People's Commissariats were obedient tools of the center in carrying out the course fixed by the center, now sectorial ministries have their own departmental interests, carefully defend them, exert powerful pressure on the center during formation of investment policy and actively oppose creation of a socialist market. The latter is very important for understanding the acuteness of the crisis situation: an organized socialist market is the antipode of the authority of the ministries. This authority is based on shortages and rationing, funded distribution of resources and ready-made production. If the director of an enterprise may freely buy raw material, equipment etc. which he needs, he does not need the ministry. They do everything in order to deter the course to balanced trade in our country. They themselves are creating the disbalance; they are allowing it to exist.

What is the way out of this situation? Elimination of sectorial ministries is the most radical path but not the most constructive. Is it possible to conceive a variant which is not destructive but reorientating? Two paths are possible: either the ministries are transformed into major intermediate firms for the study of demand, interplay of the markets, dynamics of technological progress in sectors and, on the basis of profit and loss accounting, provide appropriate services to the enterprises or they are involved in strategic questions of development of the sector in the very long-term and then gravitate toward Gosplan and operate as if they are its sectorial branches. Truly there are other possible variants of solution of this problem. However, first of all, in the present-day legal state, the function of ministries as superior agencies in respect to enterprises must be eliminated. Equal economic partnership should be the basis of democratization of economic life.

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## PLANNING, PLAN IMPLEMENTATION

### Role of State Orders Analyzed by Industrial Sector

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[Article by L.B. Vid, chairman of the USSR Gosplan; N.G. Shamrayev, chief of the consolidated division of the fuel and energy complex, balances, and resource saving of the USSR Gosplan; V.S. Shishkin, deputy chief of the consolidated division of the chemical and timber complex; N.Ye. Smetanin, deputy chief of the consolidated division of consumer goods, light industry, services, and trade of the USSR Gosplan; G.Ya. Yelistratov, deputy chief of the consolidated division of the APK; V.N. Senichev, chief of the subdivision of social plans of the division for contracting work of the USSR Gosplan; and V.A. Bogatov, head specialist of the consolidated division of the machine building complex: "The State Order: Problems of Formation"]

[Text] The state order is one of the basic instruments of

**the economic management system. Under the 13th Five-Year Plan it should become an organic part of the initial planning data, which should also include control figures, economic normatives, limits, payments, and taxes. The editors have asked the deputy chairman of the USSR Gosplan, L.B. Vid, and a number of leading Gosplan specialists to express their ideas about the problems and peculiarities of the formation of the state order for the forthcoming five-year plan. Published below is the conversation with L.B. Vid and his answers to the editors' questions.**

[PLANNOVOYE KHOZYAYSTVO] Leonard Borisovich, the first question has to do with organization. How will the work proceed for preparing the new draft Provisions for the Formation of State Orders Under the 13th Five-Year Plan?

[Vid] The answer has two aspects. The first consists in that, according to the USSR Law on the State Enterprise (Association) and the decree of the CPSU Central Committee and the USSR Council of Ministers "On Restructuring Planning and Increasing the Role of the USSR Gosplan Under the New Management Conditions," the state order is a constituent part of a fairly complex and balanced system of initial planning data, which also contains control figures, limits, state taxes, economic normatives, financial payments and benefits, and also relies on centrally established prices and rates. The system of initial planning data, including centralized prices and rates, should provide space for the establishment of a socialist market and the development of commodity-monetary relations on the basis of independent horizontal ties of enterprises with a broad spectrum of concrete contractual prices and rates for their goods and services. Therefore when developing the draft of the Provisions on State Orders, it is necessary to take into account that today and in the future they will be interconnected with the system of initial data, and in both the branch and territorial cross sections, where their own laws are in effect but mutually coordinated ones are as well. We take this factor into account on the basis of the coordinated and parallel work on all constituent parts of the initial planning data, but the state orders have the greatest interconnection with the control figures and limits.

The second aspect is conditioned by a deep and comprehensive analysis of the fairly contradictory experience of working with state orders in keeping with the temporary provisions on the policy for their formation. We are taking this experience into account. Moreover, the course of the radical economic reform and the decisions of the March (1989) Plenum of the CPSU Central committee largely determined the structure of state orders in the agrarian sector of the economy.

Further. The forthcoming five-year plan has fundamental peculiarities consisting in the growth of the rates of the social reorientation of the economy as a whole, structural improvements, conversion of the defense

complex, the new quality of economic growth, and resource-saving—the main motive force along with scientific and technical progress and the integrated management system under the conditions of the economic reform. Obviously, from the standpoint of the scale of the realization of the new economic mechanism and the formation of the socialist market, the 13th Five-Year Plan will have two different periods. The first of them (1991-1992) will be a continuation and completion of the measures begun this year for financial improvement of the economy. In the second (1993-1995) the new system of prices and rates, the socialist market, and all elements of the new economic mechanism intercoordinated with the integrated system of state economic management and reform of the country's political system should begin to function actively.

It is impossible to take these extraordinarily complex factors into account in the draft of the Provisions on State Orders, but one must strive for this. The main thing is that it is necessary to have an organizing document that is sufficiently well inserted into the future production and economic environment and reflects equally both the interests of the center and the state and those of the union republics, territories, and enterprises located on them.

This task can be carried out only on the basis of repeated reworking of such a complicated document, enlisting a wide range of planning specialists, economists, and practical workers of the ministries and enterprises. The organization of the work on the draft of the Provisions on State Orders for the 13th Five-Year Plan in interconnection with the control figures and limits envisions initially its preparation through the forces of the consolidated departments and institutes of the USSR Gosplan and the inclusion of all departments and the scientific-economic community of the Gosplan. This stage of the work began in April of this year and a discussion will proceed in the science section of the Commission for Improvement of the Economic Mechanism under the USSR Council of Ministers; subsequently there will be a preliminary discussion in the board of the USSR Gosplan and the Commission for Improvement of the Economic Mechanism. It is intended that the draft of the Provisions formulated this way be subsequently sent for further development and preparation of the suggestions to the Gosplans of all union republics. After their remarks and suggestions are received there will be a discussion at an expanded meeting of the Board of the USSR Gosplan with the participation of central economic agencies, the chairmen of the Gosplans of all the union republics, the leaders of the scientific section of the Commission for Improvement of Management, and representatives of the ministries and the leading enterprises of the country. As a result of this work, a relatively coordinated draft (absolute agreement is never achieved in the preparation of such complicated documents) will be sent to the USSR Council of Ministers for consideration and adoption of the necessary decisions. It would

seem that before its approval it would be expedient to publish it in the press for comprehensive evaluation by the public.

With good organization and active participation it is quite possible to traverse such a long path before the policy for the formation of the state order has to be realized as an indispensable element of the system of planning data for the 13th Five-Year Plan.

[PLANVOYE KHOZYAYSTVO] What is the major target function of the state order as envisioned in the draft of the Provisions?

[Vid] I have already drawn attention to the complex and repetitive nature of the work that is being done and therefore my answer to this question might be somewhat different in the future. But I shall give the present formulation of the target function of the state order which will obviously remain basically the same.

State orders for the delivery of products (performance of work, services) should contribute to the realization of state functions for guidance of the development of the national economic complex as a unified whole and provide for: acceleration of the social reorientation of the economy, active influence on the satisfaction of the effective demand of the population for basic goods and services taking into account the needs of various age and social groups; large-scale introduction into the national economy of the most important achievements of science and technology envisioned by state scientific and technical programs, acceleration of progressive structural changes in the branches of the production and social spheres; delivery of the most important fuel and raw material resources and also products of the processing branches that are necessary for stable work of all sectors of the economy; fulfillment of intergovernmental agreements for the delivery of goods, including to the socialist countries; the formation of centralized currency funds for solving statewide problems; strengthening of the country's defense capability and its economic independence; the formation of state material reserves.

The state orders should not include products for the internal technological needs of the enterprises, products for intrabranch consumption, or raw and processed materials used within a single national economic complex or products of USSR joint enterprises with other CEMA countries and also firms of capitalist and developing countries.

The continuity of the draft with the temporary provisions on the policy for forming state orders for 1989 and 1990 can be seen fairly clearly. This is objective for practice reinforces such an approach taking into account all aspects of the common principles of restructuring the leadership of the economy and the social sphere in the union republics on the basis of self-management and self-financing.

[PLANVOYE KHOZYAYSTVO] What major internal ties are noted in the state order itself and can they be traced in practice?

[Vid] The state order is a part of the general planning system and it will be effective only along with other initial data. But it necessarily must also be accompanied by a deep internal adherence to system and intercoordinated elements of self-development. The need for this systemic nature is confirmed by practice and is conditioned by the structure of the state order. The latter is formed as an organically interconnected system that determines the solution to the primary social problems and takes into account aspects of state centralized planning that will be retained in the future. Thus, for example, the section entitled "The Development of Science and Technology," determining the group of the most important scientific research projects and the manufacture of test and experimental models of principally new kinds of technical equipment and materials, at the same time forms the future for the construction of new capacities and the preparation of production for their large-scale output and also takes into account the formation of the demand for the latest kinds of products.

The volumes of deliveries of progressive products under the state order are, in turn, the basis for the formation of limits for centrally distributed material and technical resources.

The state order for the production of consumer goods acts as a planning instrument for providing for balance between the effective demand of the population and at the same time performs the function of social protection of certain segments of the workers. The state order for the startup of the most important production capacities envisions the creation of a potential which is necessary for filling orders for delivery of highly effective products and the realization of the achievements of scientific and technical progress.

Not all specialists share the same opinion about this interpretation of the internal structure of the state order. But we think that, on the basis of the peculiarities of the establishment and functioning of all the most important elements of the new integrated management system, during the first 2 years of the forthcoming five-year plan just as in 1989-1990 the approaches of centralized, vertical formation of state orders will be more in evidence.

For 1993-1995 the number of centrally formed state orders should decrease but not as a result of violation of their internal structure, but retaining it so as to offer the consumers of products (work, services) greater possibilities of developing their own state orders "along the horizontal." This new form, in spite of the difficulty of its realization, is attractive because of the great possibilities of interaction of the sides who when establishing the

order can bear various amounts of economic responsibility for their actions and eliminate middlemen when transforming state orders into limits on the most important resources that are distributed. But this is something else to work on.

[**PLANOVYE KHOZYAYSTVO**] Where are the sources of the formation of the ideology of the state order, its structure, and its quantitative expression which the enterprises receive as initial data, and must they struggle to obtain and provide for them on a competitive basis? What is this struggle based on?

[Vid] As I said, state orders are a constituent part of the system of initial planning data, and this system will be prepared by the USSR Gosplan, the USSR Ministry of Finance, and other central economic agencies in conjunction with the Gosplans of the union republics on the basis of national goals for socioeconomic development envisioned in the Concepts and Basic Directions for the Economic and Social Development of the USSR Under the 13th Five-Year Plan and the Period up to 2005, the directions of the structural and investment policy and scientific and technical progress, and also the tasks of maintaining an adequate defense capability for the country and its economic independence. During the course of this work, on the basis of an in-depth analysis of the condition of the economy and the level of satisfaction of social needs, the branch, interbranch, and territorial balance, the state of affairs with respect to the implementation of scientific and technical programs, programs for international cooperation, and the development of foreign economic ties, variant calculations are being done for solving the most important economic and social problems during the 5 years being planned and general economic, interbranch, and regional proportions and national economic balances that determine the most important proportions in the development of the economy (balances of the social product and national income, the financial and payment balance of the state, the balance of monetary incomes and expenditures of the population, the balance of labor resources, and so forth) are being developed. By developing an interbranch balance, physical-value, value, and physical balances, and the most important social normatives, one determines substantiated demands of the national economy and the population for the most important kinds of products, the volumes and structure of investment resources, production capacities and also scale of foreign economic activity and the volumes of state reserves.

This work is carried out on the basis of extensive application of the balance, economic-mathematical, target-program, and other planning methods using an automated system for planning calculations and processing data from state statistics, materials from scientific research of branch and academic institutions, and other economic and technical information.

On the basis of the planning calculations done by the USSR Gosplan and the Gosplans of the union republics, one determines the consolidated quantitative and qualitative indicators for the development of the branches of

the national economy and industry and also the various regions of the country that are necessary for the achievement of the national goals and tasks set in the Concepts and Basic Directions for the Economic and Social Development of the USSR During the 13th Five-Year Plan and the Period up to 2005. The most important of them also form the initial data for planning: control figures, state orders and limits; and the state taxes, economic normatives, and payments along with a substantiated price system and the development of commodity-money relations are an effective economic instrument for the practical achievement of the goals that have been set.

On the whole the formation both of the ideology of the state order and the concrete provisions is complicated and has many fundamental branch peculiarities and regional aspects. Therefore it seems very important to continue to elucidate on the pages of **PLANOVYE KHOZYAYSTVO** the majority of these problems related to the preparation of initial planning data for the 13th Five-Year Plan.

**N.G. Shamrayev** (chief of the consolidated division of the fuel and energy complex, balances, and resource saving of the USSR Gosplan). The role of calculated balances of fuel and energy resources is increasing significantly at the present time. They serve as an instrument for the formation of control figures for the extraction and production of fuel and energy. Control figures should reflect the general needs of the national economy and the population and they should not be directive in nature but their realization by the producers will contribute to the balance of the economy as a whole.

It seems expedient to establish control figures for the extraction of petroleum and gas condensate, natural gas, coal, and fuel oil, and the production of the most important kinds of motor fuels. This will make it possible to efficiently combine the principle of centralization in the development of the fuel and energy complex with the expansion of the economic independence of its enterprises.

Certain kinds of fuel and energy resources, for example, petroleum and gas condensate, are raw material for the production of motor fuels and a wide range of petrochemical products, and they determine the country's export resources to a significant degree. This makes it necessary to include them in the state order.

Natural gas is becoming increasingly significant in the fuel balance. The growth of its extraction in recent years satisfies the country's needs for fuel and energy resources. But it can be provided only to consumers who are connected to gas lines and they must have a reserve of fuel in the event of a reduction or halting of gas delivery. This creates possibilities of regulating it and developing direct contractual ties between gas supply organizations and the consumers.

It would be expedient to use consumption limits established centrally by the USSR Gosplan for the USSR ministries and departments and the councils of ministers of the union republics as guides for establishing economic agreements. And there is no need either for a state order for gas or for centralized distribution of it among the enterprises and regions at the level of the USSR Gosplan and the USSR Gossnab.

As experience shows, questions of regulation of gas delivery to the consumers can be resolved by gas transportation enterprises with the participation of the USSR Ministry of the Gas Industry. Here one should take into account the need for priority satisfaction of the needs of the population, the social sphere, agriculture, technological needs, and also certain of the most important branches of industry.

There are also certain peculiarities in providing the national economy with coal. The state order for 1989 includes its delivery for the population according to the market supply, for the creation of state reserves, for the production of coke, and for export. This accounts for less than 40 percent of the overall coal resources. The remainder is sold on the basis of agreements concluded between the supplier and the consumer.

The inclusion of the overall volume of coal extraction in the control figures contributes to expanding the rights of consumers and suppliers in the selection of the assortment. Disproportions between supply and demand should be eliminated with the formation of the production plan on the basis of economic agreements for delivery with mutual responsibility of both parties. This requires a careful study of the demand for coal products in terms of the various deposits, brands, and grades both for the planned period and for the longer-range future.

The existing system for planning the production and organizing the sale of coal with the participation of the USSR Gosplan, the USSR Gossnab, and the USSR Ministry of the Coal Industry does not fully meet today's requirements. The different times at which agreements are concluded between production associations of the coal industry and coal supply and sales organizations of the USSR Gossnab and between these organizations and the consumers of coal create difficulties in the coordination of delivery times, assortment, and so forth. But the main thing is that the producer does not bear responsibility for providing the consumers with coal products or, in certain cases, for the fulfillment of the state order.

Regional coal supply and sales organizations of the USSR Gossnab, acting as intermediaries between the consumers and suppliers of coal, cannot take full responsibility for supplying each consumer and the national economy as a whole with coal products. Therefore it is necessary to develop a better system for organizing the extraction, production, and sale of coal fuel.

It would be expedient to bring the coal producer closer to the consumer by including territorial coal supply and sales organizations in the production associations of the coal industry. This will make it possible for the USSR Ministry of the Coal Industry to bring the state order for coal delivery to the specific producers (they will be playing the role of suppliers) and also transfer to them a number of functions currently performed by the ministry and the USSR Gossnab.

As commodity-monetary relations develop between the coal industry production associations and the consumers, even under the 13th Five-Year Plan it will be possible to reduce the state order for coal delivery as a result of reducing the shortage of individual kinds of it for sale to the population, the needs for making coke, and so forth.

Providing the national economy with fuel oil also has its own specific features. There arises a need for central regulation of its production and consumption so as not to reduce the interest of the oil refineries in more thorough processing of petroleum. In other words, it is expedient to regulate the consumption of fuel oil by establishing limits that take into account the production volumes adopted by the enterprises and are the basis for concluding economic agreements between the manufacturers and consumers of the products and satisfying the most basic needs when it is impossible to make substitutions with other kinds of fuel.

Fuel oil is delivered to the consumers with the state committees for providing petroleum products under the councils of ministers of the union republics acting as intermediaries. It would be expedient to consider only questions of interrepublic deliveries at the level of central economic departments (USSR Gosplan, USSR Gossnab). The councils of ministers of the union republics should be given the right to distribute it among the enterprises and organizations on their territories regardless of their departmental jurisdiction.

**V.S. Shishkin** (deputy chief of the consolidated division of the chemical-timber complex). The following policy is possible for the formation of the state order for the delivery of products in branches of the chemical-timber complex. The state order includes the most important kinds of items delivered to branches of agriculture for the introduction of effective technologies and implementing for food programs as well as for the needs of light industry, machine building, construction, the social sphere, and public health, and also individual kinds of multifunctional raw material necessary for balanced production of the final product. The state order for light petroleum products, polymer materials, paper for printing, medicines, and medical equipment is established for the entire volume of deliveries.

Taking into account the special social significance of medicines, the state order for them is also formed for the entire delivery volume. For a specific list of medicines it is determined by the USSR Ministry of Health and the supply ministries in mutually coordinated volumes.

The state order does not include products for intraplant or intraminstery consumption (this was envisioned by them in 1989-1990).

The ministries of the complex, taking into account the complicated technological ties and also the specific character of individual kinds of products, in order to provide balance of plans, develop in conjunction with the enterprises control figures for the volumes of delivery of items for intracomplex (intrabranch) application.

**N.Ye. Smetanin** (deputy chief of the consolidated division for consumer goods, light industry, services, and trade of the USSR Gosplan). In the sphere of production of consumer goods, planning at the national economic and regional levels should be mainly directed in nature with the help of control figures. Centralized directive planning by means of the establishment of a state order will be applied only the following items: new technically complicated goods that require significant state capital investments (video equipment, personal computers, and so forth); socially significant items whose production under specific conditions of the planning period is not effective enough for the enterprises (relatively inexpensive light industry goods for children, the elderly, and so forth); series-produced technically complicated items that require extensive cooperation for the delivery of batching items and also material resources distributed centrally because they are in short supply (television sets, refrigerators, passenger cars, furniture, and so forth); interrepublic deliveries of goods; volumes of production of nonfood goods in retail prices established for enterprises of the branches for which this is the main activity.

The state order includes a little more than 40 percent of the overall volume of output of consumer goods in retail prices and about 50 kinds or groups from a list of many thousands. Under the 13th Five-Year Plan this proportion, according to available estimates, will not exceed one-third of the entire volume. A sharp reduction of the state order means that the public needs for goods will be reflected in the form of control figures for the overall volume of their production in retail prices, and for specific kinds—in the orders of trade organizations for deliveries for sale to the population and also in the orders of nonmarket consumers.

The control figures are assigned to the enterprises as guides for their conclusion of agreements with their partners along the horizontal, which envision "filling" the overall volume of the production of goods in retail prices with concrete kinds of items in keeping with the demands of the population, trade organizations, and nonmarket consumers, and also the capabilities of the manufacturing enterprises. The sum of the agreements that are concluded and the consolidated plans of the enterprises ultimately determine the volumes of the production of goods for the planned period for individual regions and the country as a whole and also the degree of satisfaction of social needs and the formation of general economic proportions.

Radical changes in the methods and principles of planning are forthcoming in connection with the restructuring of economic interrelations between the center and the regions and the changeover of the republics to the conditions of economic accountability. Paying attention to the scope, complexity, and newness of the problem, it seems necessary to restructure the system for planning the production of consumer goods and the sphere of services in stages. We have in mind doing this on the basis of self-management and self-financing of the enterprises by the middle of the 13th Five-Year Plan.

In the first stage of the development of new planning methods (roughly up to 1993) at the national economic level we form and inform the councils of ministers of the union republics of control figures for the overall volume of production of consumer goods in retail prices (with a separation of food and nonfood commodities) and the sale of paid services and also the state order in terms of the volume of interrepublic deliveries in value terms and in terms of a limited products list. Additionally, we retain the existing policy for the development and assignment of initial planning data for the union ministries and enterprises under union jurisdiction.

Even in the first stage at the union level the state order is not established for the volumes of retail commodity turnover of state trade, the production of nonfood consumer goods by enterprises under republic jurisdiction, or the sale of paid services. These rights are turned over to the councils of ministers of the union republics. An exception are services of statewide significance—shipments by sea, rail, and air transportation and certain other kinds for which the existing policy is retained.

The state order for interrepublic deliveries of the USSR Gosplan could be developed on the basis of their current volumes taking into account republic calculations for exports and imports and the prospects for the development of the production of goods on the corresponding territories. In the future it will be necessary to have scientifically substantiated principles for establishing interrepublic deliveries.

For goods not included in the state order the interregional volume should be provided under direct agreements between producers and consumers within the framework of long-term agreements among the republics (oblasts, krays, ASSR's) on a mutually advantageous basis. The interrepublic exchange of goods included in the state order in excess of the centrally established interrepublic deliveries will be similar.

With complete realization of the principles of republic economic accountability in the sphere of the output of goods, the center must retain the right to determine the state order for the production of consumer goods produced by enterprises under union jurisdiction and also the volumes of interrepublic deliveries. For industry under republic jurisdiction the composition of the initial data and the policy for assigning them are determined by

the councils of ministers of the union republics. Control figures at the national economic level for the output of consumer goods and paid services are not established on the territory of a republic after the principles of economic accountability are fully realized. The overall volume of the production of consumer goods is determined according to the sum of plans of the enterprises but the balance of the monetary incomes and expenditures of the population on the scale of the national economy is formed on the basis of balance in each union republic.

When changing over to the second state of the realization of the principles of republic economic accountability, in order to strengthen state influence on the structure and scale of the production of consumer goods and the rendering of paid services, the center should develop preplanning information and send it to the republics and local agencies. We have in mind information about changes in the rates and proportions as compared to the preceding period (in the country as a whole), priorities, incentives, and restrictions on development which will be in effect during the planned period.

The changeover from mainly directive to mainly orientational planning means a rejection of the existing administrative method of regulation of production and distribution of goods, a rejection of all-encompassing planning assignments established from above as the main means of motivating the enterprises to increase their output and satisfy the demand of the consumers. Therefore the plan should be augmented by measures of centralized economic regulation of the production of goods and the regulating influence of the market. The development of a system of measures which, in interaction with planning levers, would provide in the plan and, more importantly, in the report for balance of the monetary and commodity mass is becoming a most important function of the USSR Gosplan. Today this system is only beginning to be formed in the sphere of production of consumer goods.

It is important not to allow a time lag between the change in planning methods and the implementation of measures for economic regulation of the production of goods. Otherwise either there will be significant losses or an actual return to previous administrative management levers will be inevitable.

**G.Ya. Yelistratov** (deputy chief of the consolidated division of the APK [agroindustrial complex]). In keeping with the decisions of the March (1989) Plenum of the CPSU Central Committee and the decrees of the USSR Council of Ministers, in the country's agroindustrial complex beginning in 1990 there will be a restructuring of economic relations, management, and above all the planning of the production of its branches. It is essential that the state order, unlike in 1989, will consist of one section instead of two. While this year in the plan deliveries were determined separately for agricultural products for the state and the union fund in 1990 only one delivery will be formed—to the union fund. At the

same time there will be a significant reduction of the number of indicators of the state order: in 1989 the union republics were assigned a total of 201 indicators of the state order, 111 of which were assigned by the Gosagroprom, but in 1990 indicators of the state plan will be formed only by the USSR Gosplan and only 130 of them will remain (28-30 percent less than this year).

Indicators of great national economic significance will be formed at the union level, those on which the condition of the food and raw material supply for the population and the branches of the national economy largely depends. It is typical that since 1990 according to indicators of the agroindustrial complex the state order will be to the councils of ministers of the union republics and they, in turn, will submit them to the councils of ministers of the autonomous republics and the executive committees of the kray and oblast soviets of people's deputies. It has been deemed expedient not to assign indicators of the state order to kolkhozes, sovkhozes, or executive committees of rayon soviets of people's deputies. Agricultural enterprises can voluntarily take on the execution of the state order.

Among the basic indicators of the state order for the delivery of products to the unionwide fund there remain those such as: grain, potatoes, fruit and vegetable products, meat, milk, eggs and products from their processing, sugar, vegetable oil, natural tea, commercial food fish products, cotton fiber, flax, wool, furs and hides. Moreover it is established that the volumes of grain deliveries to the unionwide fund will provide for full satisfaction of the country's need for grain for producing bread, rolls, meal and pasta items, and also the forage grain necessary for interrepublic redistribution. The unionwide fund for other kinds of food and agricultural raw material will be formed only in volumes necessary for satisfying state needs and interrepublic redistribution.

The councils of ministers of the union republics have been given the right to form the republic food fund in quantities necessary for supply of republic consumers and interbranch redistribution. According to our calculations, the proportion of products sent to the union fund will be 25-26 percent of the overall production. But there will be essential differences for individual crops and products. For example, it has been declared expedient to establish a state order for practically the entire volume of production of cotton fiber, flax fiber, and wool, and part of the volume of meat and dairy products, vegetables, potatoes, and other products.

All food resources and agricultural raw material in excess of the state orders remain for local supply of the population or can be sold by the producers of the products independently at kolkhoz markets or procurement organizations.

The government decision to create in the oblasts, krays, and autonomous republics state services for the procurement of agricultural products introduces something new into this problem. Either directly or through procurement organizations and processing enterprises these services will conclude agreements, as a rule, for 5 years with the kolkhozes, sovkhozes, and other enterprises, renters and the population on a mutually advantageous basis. The procurement organizations are called upon to take measures to encourage deliveries of agricultural products under agreement with the help of prices, guaranteed sale of the products, local receiving of them, and centralized shipment, using the material and technical reserves allotted to them by state and procurement services mainly for the fulfillment of deliveries to the union and republic funds in keeping with the state order. The products delivered to the union or republic funds under the state order should be bought at state procurement prices and those in excess of the state order—at contractual prices.

It has been established that beginning in 1990 the prices for potatoes, table grapes, fruit and vegetable products, and products from processing them, including canned goods, will be determined by the suppliers and consumers who are parties to the contract. These conditions will also be applied for deliveries of the aforementioned products to the union and republic fund.

The decisions that have been adopted are directed toward significantly increasing the production of products and economically motivating the kolkhozes, sovkhozes, renters, cooperative rental collectives, peasants and citizens with private subsidiary farms to increase food resources in the next few years. All previously existing restrictions on the production and economic activity of labor collectives and all citizens are removed.

The kolkhozes, sovkhozes, and other enterprises are given complete freedom of action in determining the production structure, the volumes of product sales, and the utilization of income with economic accountability. They are granted the right to independently determine the forms and systems of payment for labor based on the principles of activity of economically accountable production structures within the business, closely coordinating these with the final results of production. Moreover the kolkhozes, sovkhozes, renters, cooperatives of rental collectives, and peasant farms will be placed on an equal economic and legal basis. The labor collectives will play a larger role in solving all production and economic problems. All the large responsibility for the organization of food supply is placed on the councils of ministers of the union and autonomous republics and local soviets of people's deputies. Previously many farms concealed and did not utilize reserves for increasing production. Under the new conditions these retarding factors will be eliminated and this will have a positive effect on the accelerated growth of the volumes of food production.

Under modern conditions we regard the state order as the high responsibility of the government and the state for the well-being of the Soviet people, the normal and rhythmic operation of enterprises, and the organization of food supply throughout the entire country. Because of natural and climatic peculiarities the conditions for agricultural production vary and it is practically impossible to be restricted to the framework of a republic or any region. Food provision involves significant product exchange among the republics, oblasts, and krays. The state order, which regulates interrepublic exchange, changes with time but there is no doubt about the need for it.

**V.N. Senichev** (chief of the subdivision for consolidated plans of the division for contracting work of the USSR Gosplan). What should the state order be in capital construction? It would seem that the answer to this question has already been given in the Law on the Enterprise. But the experience in working to form the state orders for 1988-1989 showed that there can be different approaches to the embodiment of its provisions in concrete planning indicators.

According to the Law on the Enterprise, the state order is issued for the startup of the most important production capacities and facilities of the social sphere using centralized capital investments. Here it is stipulated that the latter are allotted for the implementation of concrete measures in keeping with the list of enterprises and facilities included in the state plan. Obviously, under these conditions the state order for the startup of production capacities should have a specific recipient, that is the name and location of the construction project. But in 1988 and in the plan for 1989 it was submitted to the ministries and departments of the USSR and the councils of ministers of the union republics in the form of an undifferentiated sum for capacities on the given list.

It seems expedient to concretize the state order and approve it in the form of a single list for clients and contractors with an indication of the capacities and the deadlines for their startup. The list should also include construction projects for which the startup deadline goes beyond the period being planned. This is necessary for prompt preparation of all participants in the investment cycle for the fulfillment of the state order and for a prompt beginning to planning and construction.

It is also necessary to refine the principles for the formation of the state order for the startup of production capacities. First of all one should refrain from a strict connection between the latter and the previously given list since various capacities on one list do not always have the same national economic importance.

The main criterion for including a construction project in the state order should be whether or not it is included in one or another priority scientific and technical or

social program of statewide significance. Here it is expedient to limit the state order to construction projects financed from the state budget, as is stipulated by the Law on the Enterprise.

In connection with the democratization of the management of the national economy and the expansion of the rights of the local agencies in questions of economic and social development of territories under their jurisdiction it seems necessary to clarify the policy for the formation of plans for the startup of facilities of the social and cultural sphere. This work should be transferred to the councils of ministers of the union republics. For management of the country's social development and accounting for the needs for materials and technical resources for these goals it is sufficient to determine and notify the councils of ministers of the union republics of the control figures for the overall startup of facilities of the social sphere from all sources of financing on the territory as a whole (including the participation of enterprises and organizations under union jurisdiction). The control figures should be calculated on the basis of scientifically substantiated social normatives for providing the population of each republic, kray, and oblast with facilities for social-cultural and municipal-domestic purposes.

Based on the control figures, the councils of ministers of the union republics, in conjunction with the ministries and departments of the USSR, could develop consolidated plans for the startup of facilities of the social sphere on the territory under their jurisdiction and if necessary issue their own orders for these facilities, which would be financed from the state budget. To do this it would be necessary to legislatively grant the union republics the right to issue orders to the enterprises and organizations under union jurisdiction. The material and technical support for the republic orders should be given priority and provided by the Gosnabs of the union republics through the system of wholesale trade.

A couple of words about the startup of facilities of the social sphere using money from the union budget. When centralized capital investments are used to create large new capacities or enterprises that require the enlistment of a significant quantity of additional work force, expenditures on the formation of the social infrastructure should be envisioned in the plans for construction. When such a construction project is included in the state order facilities of the social sphere are included along with it. When funds are allotted from the union budget for the construction and startup of individual facilities for social and cultural purposes they should also be included on the list of construction projects of the state order.

One cannot but mention the incentives for state orders either. Their declared mandatoriness is ineffective so far. In order to improve the state of affairs with the creation of the most important production capacities, it is necessary to significantly increase the interest of all participants in fulfilling the state order. First of all it will be

necessary to arrange guaranteed material and technical support for construction projects based on the needs determined by the plans and estimates.

At all levels of management it is necessary to render comprehensive assistance to the client and the general contractor in enlisting enterprises and organizations that provide for the creation of capacities for the state order (planners, subcontractors, supply workers, equipment manufacturers, transportation workers, and so forth). In order to improve the coordination of the activity of participants in construction it would be expedient to conclude multilateral contracts. The consideration of disagreements about contracts could be entrusted to agencies of the USSR State Board of Arbitration.

It is also important to attentively analyze questions of economic incentives for enterprises and organizations for their construction of capacities for the state order. These incentives are inadequate so far. And without incentives it is impossible to realize the idea of the competitiveness of state orders.

**V.A. Bogatov** (head specialist of the consolidated division of the machine building complex). Deliveries of the most important industrial machine building products included in the state order that provide for the introduction of the achievement of science and technology into the national economy and for more rapid output of progressive kinds of machines, equipment, and instruments are increasing by a factor of 1.2 in 1989 as compared to 1988. Moreover the share of the state order in the overall volume of the production of products has decreased significantly—from 86 percent in 1988 to 25.3 percent in 1989, including to 10.2 percent in machine building.

It would seem now that the share of state orders has decreased significantly and the enterprises at which they are placed and completely filled have the right to additional economic benefits with respect to payments from profit (income) into the state budget, all commodity producers would be interested in them. But, as is shown by the data of the USSR State Committee for Statistics for the first quarter of this year, some of the state orders are not fully accepted by machine building enterprises.

What is the reason for this situation? First of all the fact that the existing temporary provisions concerning the procedure for forming state orders in 1989-1990 does not determine the measure of financial responsibility of the enterprises who have refused to accept them and thus have failed to observe planning discipline. And the enterprises where we have placed orders for the delivery of the most important machine building products have had to be guaranteed priority for the acquisition of raw materials, semimanufactured products, and so forth necessary for filling the order.

In order to carry out a progressive restructuring and give priority to the development of machine building it would be expedient to include in state orders for the delivery of the most important kinds of products not only the final products but also the items necessary for their production and also certain highly effective materials manufactured in limited quantities by enterprises of ferrous and nonferrous metallurgy and the chemical and petrochemical industry. The work of the enterprises for concluding agreements should begin with clients who are filling the state order, above all from the list of centrally distributed products, and only after that through direct ties with other consumers.

When fulfilling state orders it is also important to take into account the interests of the union republics. With the utilization of contractual relations based on principles of economic accountability among local soviets of people's deputies and enterprises under union jurisdiction the republics have greater rights in planning the activity of their enterprises. Therefore if a client refuses to conclude an agreement with the consumer who is filling the state order, the latter has the right to appeal to the local (republic or oblast) soviet of people's deputies to have the disagreement resolved. The functional agencies of the councils of people's deputies (the main production-economic administrations of the ispolkoms created in 1988) examine the disputes and disagreements and, if necessary, apply economic sanctions against the suppliers who are refusing to deliver products for the state order and the fines are deposited into the local budget. As fine sanctions they can either apply additional taxes on products required for state orders but sent to another consumer or they can withdraw all the profit received from the sale of these items and deposit it into the local budget.

Moreover, the enterprises that have received the state order must report each month on the course of the conclusion of agreements for the delivery of items and also inform the higher agencies about rejections of these products they have received so that the products can be redistributed. Economic sanctions must be taken against enterprises that refuse to make statistical reports or to submit reliable information.

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### INVESTMENT, PRICES, BUDGET, FINANCE

**Comprehensive, Balanced Tax Legislation Needed**  
18200412 Moscow PRAVITELSTVENNYY VESTNIK  
in Russian No 11, May 89 p 5

[Article by Candidate of Juridical Sciences S. Zapolskiy and Dr of Juridical Sciences M. Yukov under "A Current Theme" rubric: "Taxes and Democracy: The Harmony of the Relations Between the Economic System and the State Depends on Their Interrelationship"]

[Text] [Boxed material] We refer you to this information.

The bases of the existing system of payments of enterprises to the budget were established by the radical tax reform carried out in 1930. At that time, by decree of the USSR Council of People's Commissars, the multichannel tax system including 56 different kinds of budget income was replaced with the so-called two-channel system including a tax on turnover and a profits tax.

The radical nature of the reform was expressed in the rejection of the levying of taxes in regard to the state sector of the national economy and in the transition to the use of allocation methods. This was doubtless quite convenient from a financial point of view but it led to an obliteration of the boundary between the finances of enterprises and general state monetary resources. In the final analysis, the mechanism for the mobilization of income to the budget lost its stimulating role.

With the passage of time, the number of channels for the inflow of means to the budget increased somewhat. But the role of the turnover tax remains unchanged. It is still used as an instrument for the formation of the profit (income) of enterprises and accordingly of payments to the budget from profit. There was a gradual increase in the fractionality of the turnover tax, because the difference between retail and wholesale prices (the commodity method) is being applied more and more in its calculation. This leads to a greater and greater loss of the quality of standardization of this tax. Let us recall that initially, at the moment of its introduction, the turnover tax was differentiated for only 143 commodity groups (see decree of the USSR Council of People's Commissars from 19 December 1931 "On the Turnover Tax Rates for the Enterprises of the Socialized Sector"), which is significantly more preferable than the commodity method.

The attempt in 1965 to introduce new elements of taxation (payment for funds, fixed or rent payments) was without results because of the distributive calculation of the available residue of profit channeled into the budget.

The principles of the tax reform of 1930 are clearly felt even now, because the subsequent changes involving practically all financial instruments had little effect on the methods for the mobilization of the income of state enterprises to the budget.

However unusual the placement of the words "taxes" and "democracy" in one line may be, foreign practice indicates that the degree of democracy in the economic mechanism is largely determined by the tax system and the manner in which taxes are levied. The imposition of any previously fixed tax burden, even if it is rather high, imparts a quality of harmony to the relations between the economic system and state.

In connection with the discussion of the subject of the taxation of enterprises, it is also important to examine the legal aspect of the planned measures. For we are seeing a change in the attitude toward taxation as a vestigial economic-legal institute inherited from the

past, which itself speaks of the raising of the financial standards of the society. In the contemporary financial mechanism, taxes are called upon primarily to strengthen the legal protection of the property interests of enterprises and associations, which acts as a powerful stimulus for raising the efficiency of production.

Why is this so? The fact is that with the payment of taxes the taxpayer attains the juridical and actual possibility of disposing of his income liable to taxation. Let us remember how workers and employees receive wages. The possibility of disposing of their wages arises only after the payment of the income tax. Something similar takes place with respect to the incomes of economic organizations that make the corresponding payments to the budget as the condition for the disposition of the remaining part of income. In other words, the payment of the tax on the corresponding income presupposes the legality of the receipt of this income, as a consequence of which the taxpayer acquires the full disposition of income only after and as a result of the payment of the tax.

From the juridical point of view, it is also extremely important that the tax always has a greater standardization compared to other means of providing the state with income. In addition, the tax differs from any form of allocation through the presupposed participation of the taxpayer along with the state in the achievement of the programmed economic result. The tax is an obligation linking the producer and the state as debtor and creditor, which only secondarily imposes on the taxpayer the duty to pay to the budget the sum required by the state. It is primarily the obligation to receive income subject to tax.

In this connection, it is difficult to agree with the "romantic," so to speak, opinion sometimes encountered that the society in its development will achieve a stage in which production and distribution and consumption will be balanced in an optimum manner. What are taxes if not an instrument to guarantee this balance? The society will achieve this goal only when it is truly able to master the art of taxation and can overcome its striving and desire to have a balanced economy without making an effort in this connection, frequently even aggravating the existing disproportions through arbitrary decisions. It is precisely for this reason that the tendency to utilize taxes as a means of the operational regulation of the incomes of enterprises and citizens is quite dangerous. Taxes are too powerful a regulator of economic management to be used only for the resolution of immediate day-to-day tasks.

Now some practical considerations relative to a number of elements of the system of taxation to be established.

In the first place, one should irrevocably renounce the entire group of nontax payments merely on the basis of the fact that the latter in the very nature of their establishment and levying contradict the economic independence and proprietary individualism of enterprises.

The sphere of the establishment of payments for natural and other resources, taxes on profit or income and the levying of other allocations to the budget from enterprises must be regulated exclusively by legislation and not by branch administrative agencies or even by the Ministry of Finance. Taxes are the prerogative of the USSR Supreme Soviet and USSR Council of Ministers only.

Secondly, it seems that the future of the taxation of enterprises consists precisely in finding the optimum relationship between the levying of taxes on turnover, property and income and not in making one of these kinds of taxes dominant. It is important, however, to preclude entirely the possibility of double taxation and, for this purpose, to coordinate, to "adjust," the objects of taxation as accurately as possible among themselves.

Thirdly, it appears opportune to propose a fundamental change in the system for the calculation of the turnover tax. At the present time, it absorbs the entire difference between retail and wholesale prices, "freeing" the producer from any interest in selling the corresponding commodity to a specific consumer. Because the object of the turnover tax is indeed turnover, receipts, there is every justification to calculate this tax as a tax on the supplemental value in a given production link. By the way, this is what is done in the tax legislation of all EEC member countries. The taxation of the turnover of supplemental value would make it possible to give the payer an interest in the sale of commodities and in raising their consumer qualities.

Fourthly, it appears that one of the juridical objectives of the tax reform must be the unification of the objects of income taxation. Without doing any harm to cost accounting methods of production management, including the methods applied in the formation of the wage fund, to shift to the taxation of income only—for state enterprises as well as production cooperatives. The category of profit has become an anachronism from the positions of contemporary forms of taxation.

Selectivity in involving different payers to some particular forms of taxation is juridical nonsense. Why, for example, do only state enterprises and organizations make payments for funds and production cooperatives do not pay a turnover tax? Why are there differences in the taxation of kolkhozes, sovkhozes, etc., that are difficult to explain?

In the course of carrying out the tax reform, the taxation of different types of economic organizations must be unified. In particular, the recognition of cooperatives as the basic link in the unified national economic complex (Part 1, Article 4 of the Law on Cooperation in the USSR) gives justification to raise the question of making the taxation of cooperatives more like that of state enterprises. It is a matter of establishing a universal legal system of taxation that can be applied equally to state as

well as cooperative enterprises. In our view, one should provide for the payment of a turnover tax, payment for utilized resources and income taxation for all legal entities-payers.

In addition to everything else, a unified tax system will contribute to the economic competition of enterprises, equalizing the "starting line."

Fifthly, it is necessary to give some thought to how justified it is under the new conditions of management to exempt entire categories of legal entities, many of which are engaged in highly profitable production work, from the payment of taxes. They include artels of prospectors, associations of attorneys, centers for scientific-technical creativity of young people, cost-accounting centers at VUZ's, and other analogous economic organizations. Enterprises and many cooperatives and public organizations whose income is either not subject to taxation or is taxed at minimum rates are in a quite favorable regime of taxation. In giving due consideration to the reasons that once dictated the granting of advantages of this kind, one should still doubt the economic validity of maintaining them. As practice shows, exemption from taxes does not lead to any significant results but does contribute to a decline in financial discipline, to the unjustified enrichment of some enterprises and to the rise of various disproportions—in wages, investment opportunities, etc. The real weight of the tax burden should be regulated not through exemption from taxation in general but through objective or subjective advantages. Only then can one implement the principle of social justice in full.

If we speak of the general line of development of tax legislation, in the long term we see the possibility of establishing a single legislative act on taxes and other state income (duties, fees and fines) covering the entire material-legal and procedural mass of legal norms regulating taxation. A code of state incomes or a law on state income could be such a legal act.

## REGIONAL DEVELOPMENT

### ArSSR Ministers Assess First Quarter Performance

18200381 Yerevan KOMMUNIST in Russian  
11 May 89 pp 1,2

[Unattributed report: "Armenian SSR Council of Ministers Resolution: On Results of Fulfilling the ArSSR State Plan for Economic and Social Development and Execution of the ArSSR State Budget for the First Quarter of 1989"]

[Text] The Armenian SSR Council of Ministers points out that certain work was done by ministries and departments, Soviets of Peoples Deputies city and rayon

ispolkoms and by union subordinated enterprises (associations) and organizations located on the territory of the republic to organize implementation of targets established for the first quarter of 1989.

As a result of the measures adopted, fulfillment of the plan's main indicators was somewhat improved as contrasted with January 1989 and the rate of the slump caused by the earthquake was reduced.

Contractual obligations for production deliveries were fulfilled by the following enterprises: USSR Ministry of the Petroleum Refining and Petrochemical Industry, USSR Ministry of Ferrous Metallurgy, USSR Ministry of Mineral Fertilizer Production, USSR Ministry of the Medical and Microbiological Industry, USSR Ministry of the Automotive Industry, USSR Ministry of Tractor and Agricultural Machine Building, USSR State Committee of the Fish Industry, USSR Ministry of Light Industry, and also ArSSR Ministry of Grain Products Industry, ArSSR Ministry of Light Industry, ArSSR Ministry of Local Industry, and a number of republic subordinated ministries and departments.

The consumer goods plan was fulfilled and 48 million rubles worth of goods were produced over and above the plan.

In agriculture, the quarterly plan was fulfilled for laying in state supplies of cattle and fowl (live weight), milk, and eggs. Farms of 18 rayons, including the city of Yerevan and Kirovakan, exceeded the corresponding period of last year in laying in supplies of cattle and fowl, and farms of 11 rayons in laying in supplies of milk.

The Yerevan Division of the Transcaucasian Railroad, ArSSR Ministry of Motor Transport for transportation of general use motor transport freight, and the Armenian Civil Aviation Administration are coping with plans for the first quarter of 1989 for cargo shipments.

The plan for state and cooperative retail trade commodity turnover was fulfilled.

For the first three months of 1989, 400.0 million rubles of capital investments were produced, including 232.0 million rubles of construction and assembly work. Housing totaling 64,300 square meters, schools with a 1,220-student capacity, children's preschool institutions with a 1,000-student capacity, and out-patient clinics with 570 rooms which replaced a 180-bed hospital were commissioned.

Along with this, there were considerable shortcomings in the work of national economic sectors and complexes which resulted in non-fulfillment of the plan in a number of primary indicators.

As before, perestroika is slow and, in a number of cases, is not being conducted at all in national economy management by soviets of peoples deputies city and rayon

ispolkoms. They are not monitoring activities of enterprises and associations located on their territories, they have not been involved in their work, and are not taking steps to insure fulfillment of targets.

An undemanding attitude, permissiveness, maintenance of relatives in responsible positions, and other causes continue to be found in the work methods and style of a majority of soviet of peoples deputies city and rayon ispolkoms and they are not promoting the organization of workers collectives for fulfillment of targets and ensurance of high work discipline at the plant.

As a result of this, the republic's industrial enterprises under-fulfilled the production delivery plan by 2.3 percent in accordance with contractual obligations and they operated below their capabilities.

Yerevan Industrial Enterprises (Comrade E. Avakyan, Ispolkom chairman) performed extremely unsatisfactorily during the quarter under review. They fulfilled 97.5 percent of contractual obligations for product deliveries (under-deliveries valued at 25 million rubles or 63.8 percent of the average volume of under-deliveries by the republic).

Ararats enterprise (Comrade S. Vartanyan, Ispolkom chairman), and Ashtarakskiy (Comrade R. Grigoryan), Nairiyskiy (Comrade F. Markaryan), and Oktemberianskiy (Comrade M. Mkhitaryan) rayons could not cope with the plan, did not fulfill contractual delivery plans, and allowed a reduction of the volume of production and the productivity of labor as contrasted with the first quarter of last year.

There was a significant shortfall in production delivery according to the signed agreements by the following organizations: ArSSR Gosstroy (Comrade L. Shakhbazyan), ArSSR Ministry of Internal Affairs (Comrade N. Minasyan), and Nairit (Comrade S. Astvatsatryan, general manager) scientific and production association and Armtsvetmet [Armenian Non-Ferrous Metal] (Comrade A. Adibekyan) and Armelektromash [Armenian Electrical Equipment] production associations (Comrade M. Arutyunyan), Armelektrosvigatel [Armenian Electric Motor] (Comrade K. Petrosyan), Sapfir [Sapphire] (Comrade A. Arutyunyan), Elektropribor [Electronic Instrument] (Comrade A. Kilikyan), Ararats Cement and Slate Combine (Comrade Yu. Burlov, director), Ararats Reinforced Concrete Construction Plant (Comrade V. Tatevosyan), Yerevan Jewelry Plant (Comrade E. Grigoryan), and Yerevan School Furniture Plant (Comrade R. Nazaretyan).

Due to the poor quality of the product produced at a number of the republic's enterprises, the volume of items accepted by Gospriemka [State Acceptance] remains low, in particular, at Oktemberian Machine Tool Manufacturing Plant (Comrade A. Ivanyan, director)—65 percent, Armavto's Charentsavan Production Association (Comrade Dzh. Abramyan, general manager)—42.3

percent, Yerevan Plant imeni Dzerzhinskiy (Comrade T. Oganesyan, director)—32.7 percent, Yerevan Tire Plant (Comrade A. Sukiasyan, director)—52.0 percent, and Yerevan Automobile Plant "YerAZ" (Comrade E. Babadzhanyan, director)—39.3 percent.

These cases of non-fulfillment of the republic plan through growth of productivity of labor and plan profits indicates the low level of management of republic industry.

Due to serious shortcomings and miscalculations in the work of soviets of peoples deputies city and rayon ispolkoms, managers of many enterprises and organizations, while not feeling any responsibility, continue to consider services to the population as secondary matters and do not devote proper attention to this important sphere of social development which resulted in non-fulfillment of the sales plan for paid services to the population.

ArSSR Ministry of Public Housing (Comrade G. Sarukhanyan), ArSSR Ministry of Motor Transport (Comrade G. Badeyan), and Yerevan Soviet of Peoples Deputies city ispolkom allowed the greatest lag.

During the first quarter of 1989, 3.2 tons less cattle and fowl and 10.4 tons less milk were provided to the government by agriculture as contrasted with the same period of 1988. Farms of Bagramyanskiy (Comrade B. Avchyan) and Nairiyskiy (Comrade F. Markaryan) Rayons could not cope with tasks for laying in supplies of meat and farms of Amasiyskiy (Comrade S. Arutyunyan), Aragatsskiy (Comrade A. Karapetyan), Varde-nisskiy (Comrade E. Mailyan), Krasnoselskiy (Comrade A. Khachatryan), and Tumanyanskiy (Comrade Zh. Petrosyan) rayons and Yerevan (Comrade E. Avakyan) could not cope with laying in supplies of milk.

Yerevan Division of the Transcaucasian Railroad (Comrade A. Kandilyan) did not fulfill the passenger transport plan and ArSSR Ministry of Motor Transport (Comrade G. Badeyan) did not fulfill the passenger transport profits plan.

A number of republic ministries and departments work on access roads deteriorated.

Average idle time during loading operations for the Yerevan Division of the Transcaucasian Railroad totaled 7.5 hours with a norm of 5.6 hours.

Abovyan Industrial Railroad Transport Enterprise, Alaverdi Mining and Smelting Combine, and Lenstroy Trust's Reinforced Concrete Construction Plant allowed the greatest excess rail car idle time.

In capital construction, social and cultural facilities construction was being slowly carried out as previously.

Plans for using assets allocated for construction of social and cultural and consumer facilities were foiled in a number of the republic's rayons. Thus, in Razdanskiy Rayon (Comrade M. Martirosyan) 47.0 percent were used, in Tumanyanskiy (Comrade O. Saakyan) 56.6 percent were used, and in Kafanskiy (Comrade M. Dzhangiryan) 55 percent were used, etc.

The plan for commissioning housing through local soviets was only 82.4 percent fulfilled altogether, including 40 percent through the ArSSR Ministry of Public Housing.

The work of a number of soviets of peoples deputies city and rayon ispolkoms located outside the earthquake zone characterize the lowest rates for fulfilling housing construction plans. They are the cities of Echmiadzin and Goris and the raytsentr [rayon centers] of Masis, Megri, and others.

Low work rates for restoring and building facilities for the construction industry and building materials industry (Comrade L. Shakhbazyan) cause particular alarm.

ArSSR Gosstroy, the republic's main contract organization, did not fulfill the contract work plan (the plan was 94 percent fulfilled). They permitted a reduction of work volumes as contrasted with the corresponding period last year.

The republic's state budget was fulfilled for income during the first quarter of 1989.

At the same time, the payment plan from profits was 79.7 percent fulfilled. Gosstroy (Comrade G. Oganesyan), ArSSR Ministry of Light Industry (Comrade R. Mkrtchyan), ArSSR Ministry of Grain Products (Comrade R. Shakhbazyan), ArSSR Ministry of Communications (Comrade R. Avoyan), ArSSR Ministry of Trade (Comrade R. Sukhudyan), and ArSSR Ministry of Motor Transport (Comrade G. Oganesyan) did not fulfill their obligations to the budget.

The turnover tax plan was fulfilled, however, seven sectors of industry under-contributed by 14.5 million rubles, of which 12.0 million rubles is from the liquor, vodka, and wine making industries; 1.025 million rubles from Glavalmazzoloto [Main Administration of Diamond and Gold Mining]; 723,000 rubles from ArSSR Ministry of Grain Products; 349,000 rubles from other sectors of light industry; 164,000 rubles from the butter, fat-products, and margarine industry; 36,000 rubles from the petrochemical industry; and, 420,000 rubles from USSR Ministry of Energy and Electrification.

The local transport revenues plan was under-fulfilled (by 2.5 million rubles), places of entertainment plan (by 800,000 rubles), and housing enterprises plan (by 1.9 million rubles). The rent payments and municipal payments plan was not fulfilled through bank cash and savings banks by 2.7 million rubles. As a result of a

serious underestimation of the importance of strict control of money circulation in 44 cities and rayons having a cash plan, by a number of soviets of peoples deputies city and rayon ispolkoms, 15 did not fulfill the receipts portion of it. Among them are the cities of Leninakan (Comrade E. Kirakosyan, chairman), 4.6 million rubles; Kirovakan (Comrade L. Khachatryan), 1.1 million rubles; and, Dzhermuk, (Comrade E. Kazaryan), 700,000 rubles; and the following rayons: Amasiyskiy (Comrade S. Arutyunyan), 600,000 rubles; Goriskiy (Comrade A. Budagyan), 400,000 rubles; Martuninskiy (Comrade L. Galstyan), 800,000 rubles; Megrinskiy (Comrade G. Arutyunyan), 400,000 rubles; Shamshadinskiy (Comrade S. Gukasyan), 300,000 rubles; Razdanskiy (Comrade M. Martirosyan), 800,000 rubles; Azizbekovskiy (Comrade E. Grigoryan), 100,000 rubles; Yekhegndzorskiy (Comrade M. Dovlatyan), 200,000 rubles; Idzhevanskiy (Comrade L. Ordinian), 300,000 rubles; Noyemberyanskiy (Comrade A. Karagezyan), 100,000 rubles; and, Sevanskiy (Comrade G. Pogosyan), 300,000 rubles; and, rayon imeni Kamo (Comrade V. Akopyan), 200,000 rubles.

The state of payment discipline is not improving in the republic. The total sum of non-payments on 1 April 1989 totaled 1.057 billion rubles or, in contrast with the corresponding period of last year, they rose by 560 million rubles and, against 1 January 1989, by 218 million rubles.

Huge sums of non-payments are attributed to enterprises and organizations of: ArSSR Gosagroprom (Comrade N. Ayvazyan), 272.0 million rubles; ArSSR Gosstroy (Comrade L. Shakhbazyan), 127.0 million rubles; ArSSR Ministry of Light Industry (Comrade R. Mkrtchyan), 76.6 million rubles; ArSSR Ministry of Trade (Comrade R. Sukhudyan), 26.5 million rubles; ArSSR Gossnab (Comrade S. Stepanyan), 107.0 million rubles; Arvodstroy Specialized Construction Association (Comrade M. Gevorkyan), 17.9 million rubles; and, the Armelektromash (Comrade M. Arutyunyan), Armayto (Comrade Dzh. Abramyan), Charentsavan Tool Manufacturing Plant (Comrade Yu. Akopyan), and others.

The ArSSR Council of Ministers resolves:

1. To point out that perestroika is moving extremely slowly in managing the republic's economy, without the required dynamism, and the high vested interest of the broad people's masses. The leaders of a number of soviets of people's deputies city and rayon ispolkoms, ministries and departments, associations, enterprises and organizations which allowed the non-fulfillment of 1988 targets, did not make the required conclusions from the demands of the 9 March 1989 ArSSR Council of Ministers resolution No 108, and Comrades L. Saakyan, and V. Dayan, Yu. Khodzhamiryan, and M. Mkrtchyan, deputy chairmen, did not conduct required organizational work ensuring complete fulfillment of first quarter 1989 targets.

As a result of a serious underestimation of the republic's economic situation from, first of all, the Presidium of the ArSSR Council of Ministers, the responsibility of leaders of enterprises and organizations, who have not ensured fulfillment of targets since the beginning of the year, remains at a low level.

To jointly examine, with the leaders of republic ministries and departments and the ispolkoms of local soviets of peoples deputies ispolkoms, the advisability of placing people in responsible positions who systematically do not ensure fulfillment of targets and present the proposal to the Presidium of the ArSSR Council of Ministers.

2. To approve work of the Collegiums of the ArSSR Ministry of Light Industry and ArSSR Ministry of Local Industry (Comrades R. Mkrchyan and M. Surabyan) who have developed and persistently implementing measures which ensure fulfillment of production volumes this year at the levels actually produced in 1988 (without taking into account the capabilities lost due to the earthquake). Consider it timely, proper, and deserving of total support by all republic organizations.

Task Comrade L. Saakyan, first deputy chairman of the ArSSR Council of Ministers and Comrade M. Mkrchyan, chairman of Gosplan, to prepare an appeal in the name of the ArSSR Council of Ministers and SovProf [Trade Union] of Armenia to all workers, kolkhozniks and employees directed at an accelerated exit from the situation created and to raise the republic's economy.

3. For soviets of peoples deputies city and rayon ispolkoms, ministries and departments, associations, enterprises, and organizations:

To diligently analyze the causes of non-fulfillment of the plan, the possibility for accelerated growth of production volume, strengthen monitoring of the activities of departmental organizations, their managers, and conduct needed work for completely making up for the lag permitted during the first quarter of 1989, fulfillment of not less than 50-51 percent of the annual plan work and production volume;

To pay particular attention to the recovery of financial condition and increase the economic energy of all enterprises and institutions by means of goal-oriented management of the production relations renewal process, elimination of barriers in increasing leases, contracts, development of production cooperatives, a sharp reduction in the number of unprofitable enterprises and complete elimination of unprofitability in 1990;

To ensure a significant increase in the production of high-quality consumer goods for which there is increased demand among the population.

Republic banks need to toughen control of expenditures of monetary assets for wages and unproductive expenditures.

4. Comrade V. Movsisyan, first deputy chairman of the ArSSR Council of Ministers and chairman of the ArSSR Gosagroprom, jointly with local soviet of peoples deputies ispolkoms, needs to:

Ensure implementation of a whole series of measures for successfully conducting spring field work and efficiently resolving issues for totally supplying fertilizers and seed material, and also vegetable crop, tobacco, and geranium seedlings of all farms, renewing destroyed irrigation networks and structures by halfway through the season, and very strict economy and rationing land use;

Establish, not later than 15 May 1989, a supplemental task for production of animal products at farms in areas outside the disaster zone, to which cattle will be delivered from the stricken areas, continue laying in stock and supplying of horned and small dairy cows, hogs, and fowl, and also fodder and mixed fodder in quantities needed by public sector farms and sale to the population of stricken areas;

In May 1989, develop measures promoting, in every possible way, development of citizen personal plot farms as an important source for replenishing the republic's food resources and establishing specific tasks for each area to assist personal plot farming in fodder and dairy calf delivery.

5. Comrade G. Oganesyan, deputy chairman of the ArSSR Council of Ministers and chairman of the ArSSR Gosstroy, jointly with the heads of the USSR and ArSSR ministries and departments who have construction industry or building material industrial capabilities needs to ensure implementation of urgent measures for improving use of existing and restored capabilities, transition to multi-shift and continuous operation of enterprises with the goal of increasing production of local building materials, items, and designs required for very rapid elimination of the earthquake's aftermath.

In May 1989, complete the transition to leasing quarries for extraction of local building materials for demand existing outside of republic organizations.

6. Consider as unacceptable the fact that certain ArSSR ministries and departments and union subordinated enterprises and organizations located on the territory of the republic have not by now completed work on concluding economic agreements for the 2nd quarter of 1989 as a whole.

Comrade L. Saakyan, first deputy chairman of the ArSSR Council of Ministers and Comrade V. Dayan, deputy chairman of the ArSSR Council of Ministers, need to increase monitoring of work of all of the republic's industrial associations and enterprises and urgently organize work for conclusion of contracts by them for delivery of industrial and technical products and an

agreement on the variety and complete contracts for delivery of consumer goods with trading organizations, bearing in mind saturation of the republic's market with needed goods.

7. Point out that measures which ensure timely delivery and shipment of railway cars have still not been adopted by Comrade Yu. Khodzhamiryan, deputy chairman of the ArSSR Council of Ministers, and by leaders of republic ministries and departments, enterprises and organizations.

Oblige leaders of the Yerevan Division of the Transcaucasian Railroad (Comrade A. Kandilyan), republic ministries and departments, enterprises and organizations to ensure high rates for unloading arriving shipments, especially at night, on Sundays and on holidays, and exclude excess idle time of railroad cars from work practices. Comrade Khodzhamiryan, ArSSR Committee of Peoples' Control (Comrade G. Martirosyan) must introduce a proposal on additional measures for controlling work on loading and unloading operations to the ArSSR Council of Ministers within a week's time.

8. ArSSR Ministry of Trade (Comrade R. Sukhudyan) and ArSSR Gosagroprom (Comrade N. Ayvazyan) need to take urgent measures for organizing trade of vegetables and fruit bearing in mind supplying, subject to the quality of agricultural output and the high standard of service to the purchasers.

ArSSR Ministry of Motor Transport (Comrade G. Badeyan) needs to rhythmically and in totally supply trading organizations with transport.

9. Aykoop [Ay Cooperative] Board (Comrade M. Muradyan) needs to take fundamental steps for organizing and establishing bases on the territories of each rayon (autonomously) for breeding, preparing, processing, storing, and trading animal and plant products. Present the steps to the ArSSR Council of Ministers within two months for approval.

10. Point out that the month-long campaign being conducted in the republic for civic improvements, sanitary cleaning, and planting of greenery in the republic's cities, rayon centers, villages, and hamlets due to the insufficient organizational work of the soviet of peoples deputies ispolkoms, ArSSR Ministry of Public Housing, and ArSSR Ministry of Public Health did not attain the needed work rates.

The chairman of the local soviets of peoples deputies ispolkoms and ArSSR Deputy Minister of Public Health (Comrade G. Arutyunyan) and the ArSSR First Deputy Minister of Public Housing (Comrade G. Sarukhanyan) need to urgently liven up work on fulfilling tasks provided in the 8 April 1989 ArSSR Council of Ministers Instruction No 221 and the period for conducting this work is extended until 1 June 1989.

Comrade Yu. Khodzhamiryan, deputy chairman of the ArSSR Council of Ministers, needs to introduce a proposal on the make up of a commission for summing up results of the month-long campaign for sanitary cleaning and planting of greenery in the republic's cities, rayon centers, villages, and hamlets and filming the results for displaying the achievements and criticism of shortcomings in the work of individual leaders for preparing issues which will be examined at a meeting of the ArSSR Council of Ministers in June 1989.

#### **GSSR Council of Ministers Seeks Solution to Economic 'Crisis'**

18200383a Tbilisi ZARYA VOSTOKA in Russian  
18 May 89 pp 1,2

[Unattributed Article: "To Lead the Republic's Economy Out of a Crisis: From the Georgian SSR Council of Ministers Expanded Session"]

[Text] Georgia's Economy is in a deep and protracted slump. Self-financing and cost recovery, as new principles of economic reform, are being extremely slowly and laboriously introduced into practice even though they find support in all spheres. How do we eliminate these and other shortcomings which are interfering with the processes of renewal and impeding the course of perestroika? How do we get the republic out of this complex social, economic, and political situation and how do we overcome serious deformations which have affected reform? And the main thing: Are we ready to search for ways and develop a wide-scale program of action? We cannot resolve these and other problems without improving the financial health of the national economy.

The situation which has developed in this very important sphere of the economy was discussed at a expanded session of the republic Council of Ministers. The leaders of a number of national economic sectors, major production associations and enterprises, chairmen of soviet of peoples deputies city and rayon ispolkoms, leaders of planning commissions, financial departments, bank managers, workers of planning, financial bookkeeping services of enterprises and institution, and representatives of the mass media participated in the session.

N.A. Chitanav, chairman of the republic Council of Ministers, reported on the financial state of the Georgian SSR and on the tasks for overcoming the economic crisis.

The speaker and those who discussed the report carefully analyzed the state of affairs. The discussion was open, sharp, principled, and based on the real situation. Having indicated individual positive achievements attained in the republic's socio-economic development during the last three years, they focused their attention on a whole series of shortcomings, omissions, and errors which are

interfering with acceleration of its economic progress and impeding concentration of attention on carrying out constructive tasks of perestroika and deepening its processes.

It was pointed out at the session that national income for 1986-88 grew 6.1 percent altogether instead of the planned 12.6 percent which is a gap totaling one billion, 239 million rubles. During this same period, the growth rate of industrial output rose by 10.8 percent instead of the predicted 13 percent. Such an important economic indicator as profits is also not being fulfilled. During the last three years, the republic's national economy received 920 million rubles less profit with industrial enterprises accounting for 496.5 million rubles. This situation is explained to a significant degree by a high relative ratio of non-production expenditures and losses in economic activity. For the preceding period of the current five-year plan, it totaled two billion, 330 million rubles, not taking into account damage inflicted by natural disasters.

Particular attention was devoted to the issue of increasing the earnings of unprofitable enterprises. Last year, losses totaled 300 million rubles. Despite some progress in reducing the gap of our own working capital, this indicator continues to grow and at the present time totals 907 million rubles. Payment discipline is also low and above normal residuals are not being lowered.

The reluctance of a number of enterprises to conclude contracts for delivery of goods in a timely manner is having an extremely negative impact on forming and carrying out the state budget. This is being very clearly observed in the example of light and local industry. The serious situation which developed in financial and credit service has been pointed out. The volume of all types of bank loans exceeded 9.2 billion rubles which exceeds the republic's credit resources by 900 million rubles.

Matters involved with forming and using financial resources in the social sphere are extremely unsatisfactory. During the last three years, five billion, 276 million rubles was allocated for these purposes of which 72 million remained untapped.

Such an important resource as development of foreign trade is not being used to improve the economic situation. During the last 30 years, the volume of goods delivered for export has practically not increased.

An unenviable situation has arisen in such vitally important sectors of the economy as the fuel-energy complex, machine building, and light and processing industries.

The republic has not coped with the tasks for output of many important types of products. During the last three years alone, the republic underproduced the following products by the quantities indicated: 375,000 tons of coal, 49,000 tons of rolled ferrous metals, 143,000 tons of mineral fertilizers, 28,600 tons of chemical fibers and

thread, 2,140 metal-cutting tools, dozens of main electric locomotives, several thousand trucks, 714,000 tons of cement, many millions of meters of silk, wool, and other types of cloth, knit wear, hosiery, and other products.

A serious situation has also developed in the agrarian sector where agricultural product production plans are systematically not being carried out. For the period of the five-year plan which just ended, the republic received 207,000 tons of grain, 440,000 tons of potatoes, 357,700 tons of vegetable crops, 126,600 tons of milk less [than stated in the plan, and less of many other products, too.

The fulfillment of the socio-economic program is beyond criticism. Plans for commissioning housing and social-cultural facilities are systematically not being realized. Thus, the republic's population received 752,000 square meters less living space during the last three years.

There are major shortcomings in the operation of the trade and sales spheres. State and cooperative retail goods turnover plans, profits from transport shipments, and paid services are not fulfilled year after year.

The session focused attention on cases of violations of the Law on State Enterprise. Certain leaders have perceived the rights provided by the law only as an opportunity for unlimited corrections, that is, reductions, to state plans which as a result are being fulfilled and over-fulfilled without labor. You cannot call such a wanton practice anything else but anti-state and anti-party.

Just what is the cause of the insufficient effectiveness of the new economic measures and the slowing of the new economic mechanism? There is only one cause and it is based on the monolith of economic ministries cemented by red tape. The ministries and departments proceed in their activities only from narrow departmental interests at the same time that competition, cooperation, and economic self-reliance can be successfully developed only when the ministries themselves will operate in conditions of competition, cooperation, and self-reliance.

It was also pointed out at the session that transformations in the economy have not really affected the interests of the workers collectives. Cost accounting models, due only to many leaders' total ignorance of economic regulations and laws, are not creating the appropriate legal conditions under which a workers collective can actually feel like the true owner of production. Financial agencies are also guilty for the situation which has developed.

The republic's banks are still not carrying out their functions as regulators of the financial situation of enterprises and organizations and are only recorders of appropriate monetary transactions. Debit debts totaled 770.4 million rubles in the republic's economy on 1 January, 1989. The State Committee for Construction

(253.5 million rubles) and republic Gosagroprom (248.5 million rubles) are the largest debtors. The serious financial situation is complicating fulfillment of the state budget. During the last three years, enterprises and organizations underfulfilled the contributions plan to the republic state budget by 64 million rubles. The state budget is also being carried out with difficulty this year. For the first quarter, 11 ministries and departments contributed 9.6 million rubles less [than planned]. Among them were the Ministries of Light Industry, Motor Transport and Highways, Communications, the State Committees for Construction and Fuel, the Main Administration for State Insurance, and others.

During the last three years, currency emission steadily grew—a true sign of the deepening of a whole series of negative trends in the economy's development, in particular, in consumer goods production.

Under these conditions, the formation of a precise system of initial accounting and reporting is necessary. The currently existing system sharply lags behind contemporary demands which creates the preconditions for theft of socialist property. At the present time, thefts of sums of up to 80 million rubles are being discovered annually at national economic facilities which is intolerable and is evidence of extremely unsatisfactory work for protecting and safeguarding the peoples property.

The republic's legal service is not adequately participating in improving the financial situation which makes it difficult to expect positive progress.

The system of cooperative activity which has taken shape in the republic does not promote stabilization of the financial situation. For a number of reasons, cooperators are involved in the manufacture of products which are not in demand in the republic market and are being dumped outside of it. Last year, 208 million rubles was paid out in cash from cooperatives accounts and the yield totaled 56 million rubles. A precise system for monitoring the activities of cooperators so that they promote saturating the market with needed goods and in this way improve the general financial condition. For the time being, we can only talk about opposite results. Legal agencies, which must differentiate honest cooperators and laborers from combiners and machinators, are assigned a significant role in this matter.

It was pointed out at the session that it is impossible to achieve the desired end results and a real increase in the effectiveness of production through the old methods, which are oriented toward purely quantitative growth, notorious gross output, and at the expense of traditional sources. In society, everything comes from man and everything returns to him. He will not be able to labor creatively and fruitfully if he remains only an executor of orders coming from above. It is precisely for this reason that the Council of Ministers session demanded radical change in the process of training experts. Each in his own place, from minister to worker, from director of a major

association to chief doctor of a hospital, must have an understanding of the universal economic laws of the development of social production and first of all, finances.

The economic process is complex and multifaceted. Only competent, knowledgeable people can manage it. Unfortunately, as those attending the session established, there are few such people in the republic.

The session emphasized the need to increase both the role of the Council of Ministers itself, its Presidium, and also oblast, city, and rayon soviet of peoples deputies for improving the republic's socio-economic development. They must assume personal responsibility for the fate of perestroika and for specific changes for the better.

The session demanded that the leader of each primary economic section of each industrial association, enterprise, kolkhoz, sovkhoz, trade facility to kindergarten, hospital, and school analyze the financial situation in the near future and note measures for improving it.

It was tasked with creating special groups headed by leading figures, who must systematically work on the issues of regulating economic activity, search for new, non-standard forms and methods directed at stabilizing the financial and economic situation. Measures are planned for increasing the personal responsibility of chairmen of oblast, city and rayon soviet of peoples deputies for financial activity in their regions.

It was proposed to the leadership of Gosplan, Ministry of Finance, and banks that they develop a comprehensive program for improving financial planning, fulfilling the budget, the cash plan, and forming additional financial resources. The mass media is tasked with systematically covering stories in the press, on television, and on radio dealing with the issues of resolving urgent financial problems and directed at rapidly overcoming the economic crisis.

During the course of analysis of the situation which has currently taken shape in the republic's national economic complex, the Council of Ministers session noted the optimal course of the transition to self-management and self-financing. For the time being, there can be only one conclusion: A sober evaluation of the situation, without exaggeration of individual achievements, shows that all sections of the national economic complex must, in the maximally compressed periods of time, adopt fundamental measures for improving the economy and finances. The session strictly demanded that the leaders of all ministries, state committees, and departments precisely determine their positions in the current complicated situation for bringing the republic out of the crisis situation in all spheres of economic activity having warned them at the same time that the demand on them would be most severe, regardless of prestige and past service.

**KiSSR Economist Views Union, Republic as Co-Equals**  
*18200383b Frunze SOVETSKAYA KIRGIZIYA in Russian 14 May 89 p 3*

[Article by T. Koychuyev, academician of the KiSSR AN [Academy of Sciences]: "Toward Harmony of Interests of the Republic and the Nation"]

[Text] Perestroyka, which is currently occurring in the country, is directed at the further expansion and consolidation of democracy and the legal bases of the socialist state. Ensuring true internationalism in inter-ethnic relations on the basis of greater respect for rights and understanding the concerns of all peoples is one of its tasks. In accordance with this, the rights of union republics to solve problems of economic, social and political development are being expanded. The draft "General Restructuring Principles of Management of the Economy and the Social Sphere in the Union Republics on the Basis of Self-Management and Self-Financing," which is now being broadly discussed, has become a serious political document in this plan.

We can and must understand the concern of the union republics for the comprehensive, rational, ecological, and effective development of the economies of each, for protection from groundless decisions of central ministries and departments which do not take regional interests into account, for preserving or achieving favorable demographic situations in accordance with their capabilities to provide the population with food, social welfare, and work. Their concerns for maintenance of a normal ecological balance, freedom from bureaucratic management methods, striving toward self-reliance in resolving issues of economic and social development, and diverse ties with other republics and with foreign countries are also understood.

The most varied proposals are being set forth in connection with this. There are those, in particular, whose essence is reduced to the fact that all natural resources, accumulated production potential, and the material and technical base of the non-production sphere in each union republic must become the union republic's exclusive property. But then, the USSR as a state will not have an integral economic basis and the center will be deprived of economic functions. And if the decisive sphere of human activity does not become the objective of union republic management, then how will it be able to exist at all?

The integral economic complex of the country was formed with great difficulty. Artificially tearing it apart into autonomous components will first of all place the functioning of republic economies in a very difficult situation. Such a rupture will give rise to centrifugal forces and will lead to disconnection. It seems to me that,

we need not to oppose the economic functions of the union center and republic but to precisely define and designate which functions and for whom they should be preserved.

But before we begin to solve the problem, I think it is necessary to define what the concept of property consists of. If we acknowledge the expediency of the existence of a single socialist state, then the state must be the owner of the national wealth. And therefore, the national wealth of each union republic is simultaneously also the property of the Union as a whole.

At the same time, however, we must bear in mind that it is not the union state which originally had the natural resources—earth, water, mineral wealth, labor resources, and production potential, and afterward "gave it away," gave it to the peoples representing the union republics for their use and presented national statehood to them. On the contrary, the peoples had all of these resources and assets and entered into the single state voluntarily with all of their material wealth. And this gave them the right to form their national state organization.

However, entering into the USSR, the republics acknowledge that the property of the republic becomes a part of the property of the [union] state. It is precisely this approach which is the basis of the republic's economic sovereignty, its self-reliance, and regional cost accounting. Unfortunately, in the draft of the general principles for restructuring management of the economy and social sphere, the republic's ownership rights are not precisely defined, but clarity in this matter is very important for defining the republic's economic self-reliance. Speaking of public and state property, we must also recognize the various levels of their consideration: the nation's state and public property, the republic's state property, and public property in the republic. The republic and the state as a whole must act as co-owners, as associate co-proprietors of natural resources and accumulated physical assets. This situation in no way infringes upon the sovereignty of the republic.

Naturally, an economic lever is needed for this which would regulate mutual relations between them, since any ownership assumes both distribution and consumption.

This is why it is necessary to develop an integral economic mechanism for regulating interrelations between the republic and the nation which would manage the specific relationships which are forming and would take the interests of the parties into account, having limited their functions beforehand.

I think that the union state must first of all coordinate the republics' economic and social development and ensure the stability and dynamism of the nation's development as a whole.

Secondly, manage production, on a nation-wide scale, of the means of production having strategic, major scientific, or technical significance or intended for the broad union market. These issues cannot be made dependent on a republic decision. These relationships may arise concerning these productions: A republic will only be a co-owner, but the nation will be a co-owner endowed with the complete rights of a manager.

However, it is important that we be concerned that in this model the economic mechanism protects the republic's interests as an owner and the nation's interests as manager. I see such protection in apportioning deductions from profits of union subordinated enterprises to the budget (in the form of payments, taxes, etc.) between the republic and the nation. The republic's interests do not have to be infringed upon. We need to examine what affects the interrelationships between a republic (producing and consuming its own output), the country as a whole, and the other republics consuming the republic's output.

It may be advisable to reduce all types of deductions from enterprises' profits to one form [which is contributed] to the budget and establish a firm percentage ratio which would allow us to know what portion will enter the republic budget and what portion will enter the union budget. Another variant is also possible: Enterprises, regardless of subordination, contribute deductions and taxes to the republic's budget and the republic later contributes a certain portion to the union budget.

If the deduction distribution system envisioned in the draft "General Principles..." is adopted, then we must precisely define the size of the deductions in the republics' budgets (including in local budgets). For example, not less than 50 percent of the profits (income) of union subordinated enterprises located on their territory. A certain portion (less than a third) of the profits (income) of republic managed enterprises and locally managed industrial enterprises are contributed to the union budget.

The position of both the consumer and the producer must be reflected in prices for manufactured goods, but here the consumer is included in specific use relations not with the republic where production is located, but directly with enterprises' collectives. In this manner, all ownership relationships are combined in output sales and distribution of profits procedure: Ownership, regulation, and use.

The equivalence of relationships between production and regions depends to a great degree on proper determination of the level of socially needed expenditures of labor and, consequently, prices. And here agreement among the parties on price levels would help to ensure mutual satisfaction and justice. Banks and their local institutions should be placed completely at the disposal of the republic. This is important for the financial

guarantee of its dynamic functioning and priority directions. Furthermore, the banks' assets should be used only on a cost-accounting and cost-recovery basis.

However, I find proposals on the introduction of republic monetary units to be unacceptable because this will not bring any benefit but will only complicate existing financial and economic ties within the country and the system of mutual accounting. It is not by accident that in countries which have a federal system, such as the U.S., Mexico, the FRG, and others, the issue of special monetary units is never raised in their states, provinces, or lands.

The union state must form major special purpose funds (science and technology, culture, social development, economic programs, etc.) which are necessary for implementing the appropriate scale programs. Republics do not have the wherewithal to form such funds. Therefore, each of them must completely manage the manufacture of consumer goods. A republic must ensure total satisfaction of the population's requirements for goods, housing, sales services, and food which it produces or purchases from other regions with its own assets. A republic's self-reliance in managing and regulating these sectors' financial assets must be complete.

In this case, the relationships between the republic and the nation may be formed in the following manner: The republic acts as a co-owner and manager, and the nation is only a co-owner which has the right to certain deductions for the union budget. The size of deductions from this sphere's enterprises' profits must be stipulated in such a way that the predominant portion would end up in the republic's budget.

The republic must also have the right to independently access intra-republic, union, and international markets with output of the indicated production. The nation and other republics can act as consumers in this case. Of no less importance is the fact that the republic should also be able to completely manage the production of production assets having internal republic significance and manage the finances of these sectors.

It must also manage the development of science and education, culture, public health, physical education and sports, and all the region's social sphere. But there can be facilities in this sphere which have major union and even international significance. Leaving their management in the hands of the republic, we can attract assets for financing them not only from the republic but from the national budget, too.

Further. We need to understand the republic's transition to total cost accounting and self-financing as ensuring the capability of its economy as a whole and of all sections (regardless of the subordination of the enterprises located there) to work effectively and profitably, and to satisfy the population's demand for goods, products, and services through its own resources and assets.

However, we cannot talk to any degree about self-isolation of the republic's economy or an autarchic (self-satisfying) model of its development. The rights of the union republics must undoubtedly be expanded, the system of financial mutual accounting, etc., must be changed, but autarchy—absolute economic isolation—is intolerable.

I must say that, although certain positive beginnings are being observed in it, the economic mechanism for effective application of goods and money relations is nevertheless insufficiently flexible and is not precisely reacting to the real changing situations in the economy's development, be that at the level of the national economy of the nation, republic, rayon, on the one hand, or the whole national economic complex, sector, enterprise, on the other hand. There is one conclusion: We need to have a package of alternative pricing, financial-credit levers and methods of material incentives, each of which would be more precisely suited for use in some specific situation. And it would not do to make these levers united.

universal, or suitable in all situations. Such an approach would only damage the matter because it would stifle economic interests instead of stimulating them.

Today it is important to prepare, taking into account the basic proposals adopted by the USSR Council of Ministers, for the concept of regional cost accounting and the peculiarities of the republics' economic development, the provision on republic cost accounting, its charter, methodical instructions for transitioning the republic to new management conditions, to create a normative base for transition, and account for development indicators in cost accounting conditions. And here we need the collective efforts of scholars and experts of economic organizations.

A search is in progress for the best paths for economic, political, and social relationships and the appropriate institutions which would consolidate the socialist way of life, the unity and mutual understanding of peoples, and consolidate humanism and democracy. And it is important to protect these efforts from unconsidered evaluations and decisions.

## AGRO-ECONOMICS, POLICY, ORGANIZATION

**APK Tasks Arising From March Plenum**  
18240198 Moscow *PLANOVYE KHOZYAYSTVO* in  
*Russian No 5, May 89 pp 3-15*

[Article by USSR Gosplan Deputy Chairman P. Paskar:  
"Agrarian Policy and Objectives of Agroindustrial Production"]

[Text] As was pointed out at the March (1989) CPSU Central Committee Plenum, modern agrarian policy is a leading direction of the country's political course, an organic part of revolutionary perestroika, and a mandatory prerequisite of economic and social progress and of an increase in the standard of living of Soviet people.

The plenum noted that delays in solving the food problem are impermissible, and that fundamental changes have become necessary in the party's agrarian policy because development of the country's agroindustrial complex and the living conditions of rural laborers have fallen far short of modern requirements.

### I

An integral program of practical actions to hasten growth of food production and to increase the effectiveness with which the agroindustrial complex functions was developed and a fundamentally new strategy was formulated for the development of the agroindustrial complex in the next decade in M. S. Gorbachev's report to the March (1989) CPSU Central Committee Plenum "On the CPSU's Agrarian Policy in Modern Conditions" and in corresponding government decrees.

The plenum examined the causes for the lag in agroindustrial production in detail, and provided a clear answer to the question as to why all of our measures—there were very serious ones among them as well—had not produced the desired results, or assured the needed changes in the countryside.

The main causes are that the economic mechanism lacks integration and a specific orientation, kolkhozes and sovkhozes are managed dictatorially, and objective economic laws are being ignored. Steps taken to improve economic relations in the countryside have not been taken to their logical conclusion, and therefore they have not produced the needed impact. As we know, several years ago the farms were granted the right to dispose of production in excess of the plan at their own discretion. However, this decision was violated at every turn. Local party and agroindustrial organs forced the kolkhozes and sovkhozes to exceed the plan for supplying the state with products, often to the detriment of their economic interests. As a result farm directors were not interested in utilizing their potentials, and they made no effort to increase production volumes any further.

An unequal approach was employed in the allotment of plans to the kolkhozes and sovkhozes. The entire burden of the established state targets was laid upon the best farms, while a sizable fraction of farms enjoying moderate and low profits from year to year continued to produce at the same level. The bulk of the subsidies allocated to agriculture went to the stragglers, which encouraged their indigent ways.

All of this retarded the rate of growth of food production, and made it more difficult to provide food to the population. The food shortage created a certain amount of social tension, and elicited the valid displeasure of the people. The state was compelled to make major purchases of food products abroad. The average annual volume of the basic types of such purchases has still not decreased, and in the case of grain it averages over 30 million tons. Sizable quantities of vegetable oil and of meat and dairy products are imported. It is precisely by forced importation of food that the production shortfall in Soviet agriculture is being compensated.

In 3 years of the current five-year plan, deliveries to the state fell short of the plan by 44 million tons for grain, 1.4 million tons for oil seed, 21 million tons of sugar beets, and a large quantity of potatoes, vegetables, fruits and grapes. State stockpiles of grain and potatoes were especially hard to fill in 1988.

In order to meet the targets of the current five-year plan, in the remaining 2 years we will have to ensure an annual production growth rate of 40 million tons for grain, 6 million tons for sugar beets, 0.85 million tons for sunflower, 18 million tons for potatoes and 6 million tons for vegetables—that is, we will have to increase the production growth rate attained in the past 3 years by a factor of 1.5-2. All of this shows that the country's agroindustrial complex is not working effectively. The return from investments is continually declining. We are significantly inferior to developed countries in labor productivity, in the yields gathered from the fields, in animal productivity and in the diversity and quality of food products.

The rate of growth of investments and material resources significantly exceeds the rate of increase of food production. Thus in the period from 1970 to 1988, deliveries of mineral fertilizers to the countryside increased by a factor of 2.8, the area of improved land increased by 17 million hectares, and the capital-labor ratio increased almost fourfold, while the gross production of farming increased by only 20.1 percent. The main reason is the extremely low yield of agricultural crops. Today around 7,000 of the farms obtain less than 10 centners of grain per hectare, and 13,400 obtain less than 50 centners of potatoes per hectare. The land is being worked poorly in some places. Its fertility is declining. Little organic fertilizer is being applied to the fields. Water and wind erosion are developing at a rapid pace. The area of salinized land is growing.

The productive and genetic potential of animal husbandry is poorly utilized. The productivity of farm animals is rising too slowly, and large numbers of animals are being allowed to die. In 1988 almost 7,000 farms produced less than 2,000 kilograms of milk from their cows. The return from labor and material resources is low, labor productivity is hardly increasing, and the effectiveness of investments is declining. Despite two-fold growth of the capital-labor ratio of workers in animal husbandry and the significant increase of the mechanization level of the farms, the number of head tended by each worker employed in the sector has increased by only 9.4 percent in 13 years.

A management mechanism based on spending and the increase in the resource-intensiveness of production have created a situation such that while fixed productive capital increased by 6.5 billion rubles for every percent increase in the net product of the APK [agroindustrial complex] in the 10th Five-Year Plan, in 3 years of the 12th Five-Year Plan this increase was 9.5 billion rubles. In 1987 agriculture's output-capital ratio decreased by 21.6 percent in comparison with 1980. Significant losses of agricultural products, which reach 30-35 percent in certain years, elicit considerable alarm.

Besides the quantitative shortage of food products, their qualitative indicators are improving too slowly (the protein deficit in the diet exceeds 20 percent, and the vitamin deficit is as much as 75 percent, while concurrently carbohydrates and animal fats make up too large a part of the diet).

It was emphasized at the plenum that the main reasons for the low effectiveness with which the country's agroindustrial complex is functioning include serious shortcomings in the system of productive and economic relations in this sphere, and violation of the principles of economic stimulation and equivalent exchange between industry and agriculture. The bureaucratic dictatorial system of management has caused a loss of independence and a decline in the social activity of peasants and workers in processing enterprises.

While in former times emphasis was laid chiefly on providing material and technical support to agroindustrial production, in modern agrarian policy **the need for fundamental transformation of economic relations in the APK is a key issue**. At a particular stage, such emphasis was necessary, but later on executives at various levels of management arrived at the opinion that the food problem could be solved simply by providing the countryside and the APK's processing enterprises with the capital investments, equipment and other material resources they needed and by increasing the rate of land improvement. But this is not so. Although there can be no doubt that these resources are needed, and that their quantities are insufficient at present.

Analysis of development of the agrarian economy shows that in the 1970s, when capital investments into agriculture increased by 40-60 percent, an adequate rate of growth of agricultural production was not attained. Investments increased many times faster than gross production. In Lithuania for example, fixed productive capital intended for agricultural use increased in the last 20 years by almost five times, while gross production increased by only 89 percent; the corresponding figures are 4.1 times and 57 percent for Estonia, and five times and 55 percent for Moldavia.

We obviously should not forget that without fundamental change in economic relations and social conditions in the countryside, an adequate return will not be enjoyed from either capital investments, or from equipment, or from the continually increasing potential of science.

## II

The March (1989) CPSU Central Committee Plenum spelled out the most important directions of agrarian policy in the modern stage. They foresee:

- **making a decisive transition to development of agroindustrial production on the basis of a diversity of forms of possession, use and disposal of property**, and to creation of equal economic conditions for all forms of management—kolkhozes, sovkhozes, processing and other enterprises, leasing organizations, cooperatives, leasing collectives, peasant farms and the private farms of citizens—and to all-out reinforcement of their integrative ties;
- **granting complete independence** to the main producing unit of agriculture (kolkhozes, sovkhozes and so on) in matters of planning and of the disposal of products and cost-accounting income;
- **transferring the functions of controlling** agroindustrial production to the union republics and increasing the role and responsibility of union republic councils of ministers and local organs in satisfying the demand of the population for food through growth of its production locally;
- **reorganizing the administrative structure of the APK** on the basis of further democratization of production relations and the granting of the right to form self-management organs to the main producing unit. The main task of these organs would be to service the kolkhozes, sovkhozes, processing and other enterprises, leasing organizations, cooperatives, leasing collectives and peasant farms;
- **fundamentally changing investment policy** so as to ensure that it maintains a social orientation, that scientific and technical progress would be accelerated and that processing sectors of industry would develop on priority;

- **strengthening the material and equipment base** of the agroindustrial complex further on the basis of its extensive reequipment;
- **making a transition to new principles of organizing purchases of agricultural products** to be placed in all-union and republic stockpiles, as well as for local consumption, with regard for improvements in planning and economic stimulation;
- **increasing the volume of agricultural products through all-out reinforcement and development of subsidiary farms** of enterprises and organizations and through use of new forms of integrating industrial and agricultural production.

Party, soviet and farm organs have been given the task of promoting accelerated growth of food resources in order that the food supply situation could be improved by as early as 1989-1990, and of attaining a qualitatively new level of satisfaction of the population's demand for food products and organizing uninterrupted food trade in the 13th Five-Year Plan. There are plans for satisfying the population's demand in correspondence with sensible consumption norms: in 1991-1992 for milk, dairy products and vegetables, not later than in 1994 for vegetable oil, in 1994-1995 for meat and meat products, and in 1995 for fruits and berries.

The increase in processed foods in the 13th Five-Year Plan must be 26-30 percent. In this case the food resources will be increased by 27-30 billion rubles through wide use of progressive production procedures, reduction of losses of raw materials and finished products, and full utilization and thorough processing of the latter by 1995. This will contribute 60 percent to the total increase in food resources.

Serious changes are being made in the system for writing the plans of economic and social development at all levels of production and management in the agroindustrial complex in order to develop democracy further, to expand the rights and independence of kolkhozes, sovkhozes and other enterprises of the APK, and intensify the influence of commodity and monetary relations on production effectiveness.

**Major measures for forming an effective economic mechanism and system for managing the agroindustrial complex** have been outlined in decrees adopted by the USSR Council of Ministers. Functions are being redistributed between the center and local organs in connection with the transition of the union republics to self-management and self-financing. In the planning area in particular, the USSR Gosplan has been given the responsibility of providing overall scientific and methodological guidance to the writing of long-range, five-year and annual plans for economic and social development of the agroindustrial complex and establishment of economic standards, and development of the initial planning indicators (the control numbers, the nomenclatura of state orders, the

allocations, the economic standards and indicators). In order that kolkhozes, sovkhozes and other agricultural enterprises would have real freedom in planning production development, state orders for delivery of agricultural products will no longer be submitted to them.

Control figures on deliveries of the most important types of agricultural products that will not be directive in nature and the standards for payments into the budget will be submitted to the farms and enterprises by state management organs a year prior to the beginning of the five-year plan. The production structure, the product sales volumes and other production and economic indicators are formed by the kolkhozes, sovkhozes and other agricultural enterprises independently. They have been granted the right to voluntarily sign mutually advantageous product sales contracts with procurement organizations and enterprises, for a five-year term as a rule. The kolkhozes and sovkhozes can sell food products produced in excess of the contracts at their own discretion to any consumers and at kolkhoz markets.

State orders for delivering food and agricultural raw materials to all-union stockpiles are to be submitted to the union republic councils of ministers. They are to determine the volumes of republic stockpiles and submit state orders for delivery of agricultural products to all-union and republic stockpiles to the executive committees of oblast (kray) soviets of people's deputies. Using decisions of the March (1989) CPSU Central Committee Plenum, the union republic councils of ministers are to organize the efforts to prepare draft plans for economic and social development of the kolkhozes, sovkhozes and other enterprises of the APK; in doing so, they must devote special attention to providing the farms full independence in planning and to making wide use of the system of progressive technical and economic norms and standards.

When state orders are placed for delivery of products to all-union and republic stockpiles, autonomous republic councils of ministers and local soviets of people's deputies must be encouraged to develop agroindustrial production with the purpose of improving the supply of food to the population of the corresponding regions.

In order to promote the signing of contracts for delivery of products to all-union and republic stockpiles and contracts for local supply, procurement organizations have been granted the right to pay an advance to supplying farms at a rate of up to 40 percent of the cost of grain and up to 25 percent of the cost of other products foreseen by a long-term contract. Moreover they can stimulate the signing of long-term contracts by utilizing the material and technical resources allocated to them for these purposes and by offering to sell combined feed and other products in return.

In order to raise the effectiveness of the contract system, a procedure is being introduced under which the parties to a contract mandatorily accept mutual economic

responsibility for violating the terms of contracts as a prerequisite of signing contracts for delivery of agricultural products to all-union and republic stockpiles. The most important centrally distributed resources will be allocated to new state procurement services in order to stimulate the producers of agricultural products and raw materials. Processing and other industrial enterprises and construction, trade and other organizations of the agroindustrial system are being granted the right to independently determine the structure and volume of production, and other indicators of the plan for economic and social development.

Changes are foreseen in the area of financing and mutual relations with the budget. The USSR Ministry of Finance will centrally establish, for the union republic councils of ministers, ministries and departments of the APK, and subdivisions of the USSR Council of Ministers State Commission for Food and Procurements, the initial figures on payments into the budget from profit, on the amounts of turnover tax, on income and expenditures concerned with foreign trade operations, on allocations from the budget for centralized capital investments, and on operational expenditures and other outlays associated with compensating for the difference in prices on agricultural products and on processed foods. The USSR Gosplan, the USSR Ministry of Finances and the USSR Agroindustrial Bank are to provide methodological guidance to the financial activities of enterprises of the agroindustrial complex, and write the corresponding norms and standards determining their mutual relations with the budget and the bank.

One of the most important economic levers encouraging agricultural enterprises to accelerate accumulation of food and agricultural raw materials on the basis of more effective utilization of production potential is to sharply reduce budget financing of production and the social sphere. The cost-accounting income of these enterprises is to become the principal source of investment resources for these purposes.

Assets of the union budget will continue to be used for construction of the most important new enterprises and facilities of scientific research institutions, large reservoirs, hydraulic power systems and other hydromelioration installations of all-union and interrepublic significance; the union budget will also be used to finance amelioration operations. Land improvement and introduction of new irrigated and drained farm plots will continue to be financed by the farms with the help of assets from local and republic (ASSR) budgets.

The per time unit and the piece-and-bonus wage systems employed in sovkhozes and other state agricultural enterprises have come into conflict with the new forms of economic relations in the countryside; they do not encourage the kolkhozes and sovkhozes to attain high end results in their economic activity. To intensify the material interest of rural laborers in the end results of

production and to ensure that every member of a collective would experience a proprietary interest in production, the kolkhozes, sovkhozes and other agricultural enterprises have been granted the right to independently determine the forms and systems of wages on the basis of the principles of the cost-accounting activities of farm production units, tying them in closely with the end results of the work. For these purposes the existing system of wages and payment of bonuses to executives and specialists of sovkhozes and other agricultural enterprises is to be abolished as of 1990. This system will subsequently be determined by the council of the labor collective. The responsibility of the USSR State Committee for Prices, the USSR State Committee for Labor and Social Problems and the USSR State Committee for Statistics in resolving issues associated with effective operation of the country's agroindustrial complex is to be increased.

**A key role in fundamental restructuring of production relations in the countryside is reserved for purchase prices on agricultural products and wholesale prices on industrial products delivered into this sector of the economy.** A series of purchase price hikes have consolidated their significance as a means of regulating mutual relations between the peasantry and the state. Prices are transforming more and more from a means of redistributing resources from agriculture and other sectors of the national economy, as was the case before, into an active implement of economic and social policy. They are promoting creation of the conditions for real cost accounting and for conversion of kolkhozes and sovkhozes to cost recovery and self-financing, and ensure growth of the population's real income.

The stimulatory role of purchase prices began to manifest itself to the greatest degree after they were raised in accordance with decisions of the May (1982) CPSU Central Committee Plenum. In conjunction with organizational and economic measures, the rise in prices promoted an increase in production and purchases of agricultural products, and reinforced the financial position of the bulk of the farms. However, the previously evolved price system cannot support the objective of accelerated development of the country's agroindustrial complex, and it is an obstacle to deeper specialization of production, to its concentration under the most favorable conditions, to growth of agricultural products and processed foods on this basis, to reduction of production expenditures and to growth of the profitability of production.

In order to raise the effectiveness of the work of the APK under the new economic conditions, new purchase prices for agricultural products are to be introduced as of 1 January 1990. It was proposed that at the time of their development, the number of price zones should be decreased significantly by enlarging them; this is to be done in order to create high interest in increasing product purchases in regions of specialized commodity production enjoying favorable natural and climatic conditions. The presently existing differentiated markups, as

well as markups for the sale of products to the state beyond the average level achieved in the previous five-year plan, are to be repealed, and these assets are to be included in the purchase prices.

Considering the expanded powers and responsibilities of union republics in matters of food supply, it has been deemed suitable to abolish the USSR State Agroindustrial Committee and create the USSR Council of Ministers State Commission for Food and Procurements as a permanent organs of the USSR Council of Ministers.

### III

After the USSR State Agroindustrial Committee is abolished and the union republics complete their transition to self-management and self-financing, it will become necessary to redistribute functions between the center and local organs. The USSR Gosplan and the USSR Council of Ministers State Commission for Food and Procurements are to retain the responsibility for creating the all-union food stockpile and implement the policy of further deepening of social division of labor and regional specialization.

The functions of republic organs include sensible utilization of their resource potential, arriving at an optimum organization for their agroindustrial complexes, and providing the population of the given region with food. This is an area in which it is important not to display parochialism, but apprehensions that such a thing may occur exist. Local organs are already trying to reduce the production volume of industrial crops and other kinds of products, and they are meeting their deliveries to the all-union stockpile only under great pressure. Such a tendency may negatively influence production specialization as it now stands, deepening of social division of labor, and sensible use of the country's biological and climatic potential. And this hinders effective use of our country's possibilities for increasing food production. We must create conditions for the fullest possible utilization of the reserves and possibilities of every region. Economic mutual relations must orient both central and local interests on increasing production of the principal commodities. It must be advantageous for every region to deepen its natural specialization and to attain the fullest possible utilization of biological, climatic and resource potential.

If we are to increase the responsibility of individual regions for supplying food to the population, we will have to make sensible use of the resource potential, seek out reserves and possibilities, exhibit greater flexibility in investment policy, find alternative decisions, and select the most acceptable ones. The new conditions create a possibility for making structural changes in the development of the APK, for maneuvering resources among sectors, for utilizing these resources more effectively, and for quickly reinforcing the weak links—that is, for organizing the complex in the most optimal way.

Expansion of the rights and the cost-accounting independence of enterprises and regions is a most important economic tool by which to make laborers, collectives and individual territories interested in increasing production of the end product, and in economical and thrifty expenditure of material and financial resources and working time. All of this will require meticulous analysis of the alternatives for development of particular sectors and of the APK as a whole in order to ensure the greatest yield of the end product per unit of raw material and resources, to find nonstandard ways of increasing food production and to reduce food losses.

Expansion of the rights of the union republics and local soviets and imposition of the entire responsibility for providing the population with food products on them necessitated radical restructuring of the agroindustrial complex's management by dividing the corresponding functions and competencies at all levels of management.

The responsibility and role of the USSR Gosplan are increasing in the face of the fundamental organizational and economic changes occurring in the APK. This pertain primarily to the divisions of the agroindustrial complex. It is the duty of specialists in these divisions to change the style and methods of their work as quickly as possible, in order that the new agrarian policy would be concretely implemented in the plans for 1990 and in the 13th Five-Year Plan. For this to happen, these specialists will have to immediately initiate a full effort to develop the corresponding procedures and to deeply study and comprehend the proceedings of the March Plenum of the CPSU Central Committee and the government decisions that have been adopted on problems of the APK.

This is very important, inasmuch as planning must be reoriented without delay in light of the new requirements. Each person must effectively reexamine the evolved stereotypes, and display high competency and a state approach to the effort. It must be emphasized that the USSR Gosplan's timely and high quality examination of all problems of not only planning of the APK but also creation of the conditions for balanced development of its sectors depends in many ways on the machine building complex, the chemical and timber complex, the construction complex, defense industry sectors, and budgeting and operational subdivisions.

The task of all subdivisions of the USSR Gosplan—complexes, divisions and subdivisions—is to actively join the effort to implement decisions of the March Plenum of the CPSU Central Committee, and to do everything required of them in order to reach the objectives of providing food to the country's population, restructuring the social system of rural regions and creating favorable living conditions for peasants.

The premise behind the basic principles upon which the new organizational structure of the agroindustrial complex is to rest is that it is now normal for different types

of socialist agricultural enterprises to coexist. It is with regard for these requirements that management activity must be organized, especially at the rayon and oblast levels.

**At the rayon level**—a consistent effort to reorganize agroindustrial associations (RAPOs) into agricultural firms and agricultural combines and cooperative and state cooperative associations is required. The purpose of such agroindustrial formations is to resolve, on a democratic basis, the issues raised before them by farms and enterprises within their composition.

**At the oblast level**—creation of select organs of economic self-management—councils (unions) of associations of agroindustrial formations—is required. In this case their administrative structure must be determined by local soviets of people's deputies independently, with regard for the specific features and level of development of production relations and the existing economic ties.

**At the republic level**—the organizational structure of state leadership and economic management of the APK is determined by the councils of ministers of the union republics. Republic organs are given the responsibility of solving all problems concerned with economic and social development of the agroindustrial complexes of the republics in accordance with the requirements of unified statewide agrarian policy. They must be responsible for all of the work associated with supplying food to the population, with deliveries to union republic stockpiles, with organizing scientific and technical support to agroindustrial production, and with the performance of controlling and other state functions.

The plenum laid special emphasis on the following circumstance. When implementing measures to improve the organizational structure of the country's agroindustrial complex, the Communist Party central committees and the councils of ministers of the union republics and ASSRs, the kray, oblast, city and rayon party committees, and the executive committees of kray, oblast, city and rayon soviets of people's deputies must consider that intermediate levels of management will be abolished, the size of the administrative staff will be reduced, and interference into the operational and economic activities of the principal unit of production will be completely excluded.

In their new role, the union and republic APK management organs are obligated to create conditions allowing full utilization of the advantages of the modern economic mechanism and of progressive forms of management, and to observe unfailingly the rights of kolkhozes, enterprises and organizations foreseen by the corresponding laws.

The main reason for forming new economic relations in the agroindustrial sphere is to provide rural laborers broad possibilities for displaying independence.

resourcefulness and initiative, and to surmount the peasant's alienation from the land and other production resources. We will be able to do this by relying upon the new economic, political and legal conditions of management foreseen in the laws on the state enterprise and on cooperation, and in ukases of the Presidium of the USSR Supreme Soviet on leasing and leasing relations in the USSR and on private labor.

The objective is the same as it was before—to pursue a firm line of strengthening the kolkhozes and sovkhozes organizationally and economically, and of effectively utilizing their production potential. At the same time we cannot orient ourselves solely on the existing production structure (kolkhozes and sovkhozes) and on traditional forms of labor organization and wages. A diversity of forms and types of farms is fully justified in agricultural production. New forms such as cooperatives within kolkhozes and sovkhozes, collectives working on the basis of family and collective contracts, and long-term leasing of land and other basic production resources have already justified themselves in practice. Experience shows that we have found a form of production organization that will ensure a twofold and, in a number of cases, a threefold increase in labor productivity coupled with broad participation of rural laborers in this process. Leasing collectives have been found to be the most viable and effective. There are many examples where within 1 or 2 years they are able to raise yields by 10-15 centners per hectare and the milk yield from a single cow by 1,500-2,000 kg.

Nonetheless the country is continuing an active search for better organizational forms of management, it is continuing to introduce leasing, and so on. However, the transition to leasing relations is not proceeding smoothly in all places. The essence of leasing relations themselves is misunderstood, and leasing is juxtaposed with other organizational and economic forms of management and effectively operating contracting subdivisions and complexes.

The development of leasing relations and growth of the effectiveness of leasing collectives are sometimes hindered by inadequate economic preparation of personnel, and by the conservative position held by many enterprise executives and specialists, who are delaying the transition to new forms of work and offering concealed and sometimes open resistance to this progressive process. And yet successful operation of leasing collectives depends in many ways on how properly their mutual relations with kolkhozes and sovkhozes, including their economic relations, could be organized, and on the level of material and equipment supply, and of product marketing and processing, by way of diverse forms of cooperation. Thus, family-run peasant farms may be established on land characterized by low profitability, in kolkhozes and sovkhozes operating at a loss, and on presently unutilized agricultural land. All the more so because such possibilities exist. Since 1940, around 12 million hectares of agricultural land, including around 5

million hectares of plowland, have been removed from economic turnover in the RSFSR's Nonchernozem Zone. During this period the area of agricultural land was decreased in Vologda Oblast by 2.3 million hectares, to include 0.4 million hectares of plowland; the corresponding figures elsewhere are 1.6 million and 0.6 million hectares in Kalinin Oblast, 0.9 million and 0.5 million hectares in Kirov Oblast, and 0.9 million and 0.3 million hectares in Pskov Oblast. Over 5,000 farmsteads that could be transferred to persons desiring to run family peasant farms lie vacant just in Vologda Oblast alone.

Long-term leasing of land is an important prerequisite of creating and successfully operating family-run peasant farms documented in the Ukase of the Presidium of the USSR Supreme Soviet "On Leasing and Leasing Relations in the USSR." Such leasing has been instituted in order to promote future development of such farms, to ensure a thrifty attitude toward land and to increase its fertility.

More effective utilization of land belonging to low-profitability and unprofitable kolkhozes and sovkhozes operating primarily on the basis of bank loans and budget allocations could become a major reserve by which to increase food resources. They have lost all of their own working capital, and they owe the state enormous sums. It would be suitable in this connection to lease the land of unprofitable farms to the new types of cooperatives or family-run peasant farms, on the condition that production of food and raw materials would be dramatically increased, and to allow economically strong farms to lease land belonging to low-profitability and unprofitable kolkhozes and sovkhozes. Such examples exist in Moscow Oblast, in the Latvian, Ukrainian and Belorussian SSR, and in a number of other places. Or, capitalizing on the principles of the Law on Cooperation and the Ukase of the Presidium of the USSR Supreme Soviet "On Leasing and Leasing Relations in the USSR," industrial enterprises could be provided with broad possibilities for cooperating with kolkhozes and sovkhozes with the purpose of developing agricultural production using leased land and other production resources. Experience of such cooperation has also been accumulated in a number of regions of the country.

A characteristic feature of modern agrarian policy is **preferential growth of national economic end results** in comparison with growth of labor and material outlays. In fact, under conditions where the country's possibilities for increasing capital investments are sharply reduced and the economic potential of the APK has attained enormous proportions, development of its sectors and of the whole national economy based on a spending psychology is becoming unacceptable. Today **the main emphasis** is being laid not on increasing expenditures of material production resources, and not on further accumulation of capital, but on the scientific and technical level of production and scientific organization of its management, and on effective utilization of land, labor and the equipment employed.

Measures to create a qualitatively new material and technical base for the agroindustrial complex in recent years have been developed. The possibilities of associations, enterprises and organizations of all industrial sectors situated in subordinated territories will be utilized for this purpose. In agriculture, higher effectiveness of agroindustrial production is to ensure a 15-17 percent increase in gross production per hectare of agricultural land in comparison with the attained level; labor productivity is to be increased by a factor of 1.3, and the return from employing mineral fertilizers is to be raised by 20-25 percent. The materials and energy intensiveness of production will be reduced.

Treating development of the agroindustrial complex as a national economic priority in the 13th Five-Year Plan has been deemed to be a necessary prerequisite of strengthening the production potential and social sphere of the APK. All sources of financing are to contribute 345 billion rubles for these purposes—19 percent more than the amount planned in the current five-year plan. Capital investments into the rural nonproductive sphere are to be increased by a factor of 1.5, investments into road building are to be increased by a factor of 2.8, and investments having the purpose of strengthening the material and technical base of processing industry are to be increased by a factor of 1.5.

In order that the effectiveness with which the agroindustrial complex functions could be raised, **investment and structural policy must be changed**. Imbalances in this area have led to enormous disproportions in the development of the APK, and consequently to high losses of products at all stages of their journey from the fields and farms to the consumer. For example over 100 million tons of milk are produced in the country, but only a little more than 50 percent of milk protein is consumed by the population. The rest is used to feed young animals, or it is lost. At meat packing plants farm animals must linger several days prior to slaughter, production discipline is violated, and excessive product losses are tolerated. Matters are even worse with preservation of vegetables, potatoes and fruits. Reduction of losses will help to significantly supplement our food resources.

The party and government have recently been applying considerable effort to changing investment policy, which should fundamentally change the manner in which the APK has been developing. A developed processing industry must become the driving unit.

**Scientific support to the country's APK** has fallen far behind the level of highly developed countries. Science has not yet noticeably reoriented itself on the needs of the complex. The causes of such a situation are numerous, and some of them are chronic. The experimental base of scientific research and educational institutions and of design organizations of the APK has been found to be poorly equipped, and outright primitive in certain cases. All of this has caused research in priority directions such as improving economic relations and the

economic mechanism in the agrarian sector, and making full use of agricultural raw materials for the production of new types of food products, to fall significantly behind. Serious shortcomings exist in the way in which introduction of scientific and technical accomplishments and progressive experience into selection, seed farming, bioengineering and genetic engineering is organized. Consider that these are fields which have already been making practical contributions for a long time in developed countries, and which are having a revolutionary effect on growth of food resources. Soviet science must attain the same position within the next few years as well. There can be no other way. The circumstances require fundamental reexamination of attitudes toward agrarian science and toward other scientific directions associated with it.

The solution of social problems, especially in rural areas, requires serious attention. Each year more than 1 million persons, basically young professionals, leave the kolkhozes and sovkhozes. As was noted at the plenum of the party Central Committee, migration of the rural population has attained the critical mark in a number of the country's oblasts. Today one out every three rural inhabitants of the country is beyond working age, and in many oblasts of the RSFSR's Nonchernozem Zone, rural retired individuals make up almost 40 percent of the population. In the meantime the scale and rate of social transformations in rural areas fail to satisfy the growing demands of their inhabitants. The housing pool of the kolkhozes and sovkhozes is highly worn, and a sizable fraction of the homes are built without modern conveniences. Many towns lack public health and cultural institutions, and trade and personal service enterprises. The lack of roads is an acute problem.

The rural social development measures adopted in the past were inadequate. Significant assets were invested into the productive sphere, and only a small share went into social reconstruction of the countryside. Problems of social justice and the interests and needs of the individual were relegated to secondary priority. The approach to society's development based predominantly on production weakened attention to the social sphere and to the needs of the individual. The acuity of the problem of creating a social and cultural environment in rural areas which would promote growth of the population's occupational and social level and equalization of the living conditions of rural and urban inhabitants has not decreased; more than that, it has even increased. The structure of services is being shaped to meet the needs of rural inhabitants too slowly. And as a consequence, activity on the job and in the social environment and personal interest are declining, and other negative phenomena are arising. This is perhaps the main reason why socialist agriculture has been unable to realize the advantages it offers in maximally revealing the capabilities of the individual, and consequently to ensure a high, stable rate of economic growth.

Integrated development of the social sphere will make it possible to significantly upgrade the quality of manpower, and promote its continual improvement, without which accelerating socioeconomic progress and raising the effectiveness of social production would be unimaginable.

The plenum spelled out basic measures for fundamentally improving the working and living conditions of rural laborers and construction of rural roads. In the RSFSR's Nonchernozem Zone, where the greatest scarcity of labor resources is observed, it has been deemed suitable to halt construction of new industrial enterprises and expansion of existing ones that would involve an increase in the demand for workers, and to develop and implement measures to resettle people from the cities and labor-rich regions into rural areas in organized fashion.

Problems concerned with completely satisfying the rural population's demand for construction materials, structures, articles, engineering equipment and plumbing fixtures through the marketplace trade network must be solved without delay.

Life dictates that special attention must be devoted in the remaining 2 years of the current five-year plan and in the 13th Five-Year Plan to social reconstruction of the rural areas, to improvement of the living and personal conditions of laborers of the APK, and to restoration of the socioeconomic equilibrium between the city and countryside.

The USSR Council of Ministers decree "On the Program for Social Development of Rural Areas" foresees priority development of the material and technical base and the social and cultural sphere of the countryside, integrated build-up of rural population centers while preserving the natural environment, significant growth of the level of engineering equipment in the housing pool of small population centers, improvement of the planning, construction and architecture of social, cultural and personal service facilities, improvement of the supply of fuel, including gas supply networks, expansion of household use of electric power, and complete solution of the road problem by the year 2000. Ways of improving retirement support to kolkhoz farmers and medical and personal services for rural residents have also been outlined.

Implementation of these and other social measures will be a good encouragement to all workers of the agro-industrial complex to activate their efforts to fulfill decisions of the March (1989) Plenum of the CPSU Central Committee.

Fundamental transformation of social living conditions, establishment of new economic relations in the countryside, extensive introduction of the accomplishments of scientific and technical progress and development of democracy and self-management will help to raise the

agroindustrial complex to a quantitatively new rung of development in short time, and promote the fastest possible solution of the food problem.

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**Resistance by Local Economic and Political Authorities Retards Progress in Agricultural Reform**

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[Article by Ivan Vasilyev: "How Long Can We Be Tested for Our Endurance?"]

[Text] About 8-10 years ago, I wrote about the rural world in "Letters from the Countryside" in an effort to show not only our obvious spiritual losses but also to take a look at what still survived. I thought that I could perhaps glue the fragments into something usable for future life. Time passed. The feverishly invented "glue" did not hold and the fragments fell apart. Life went downhill. The longer it went on the more destructive was this movement.

It seemed strange: the peasant who from ancient times was accustomed to looking at the sky and placing his hopes in God and in his own hands, ceased to look and hope, but placed all his reliance in a force that was incomprehensible, that could not be explained by his practical mind, but that controlled all his life. What kind of demon was it, where did it come from, who sent him down, and for what sins? The mysteriousness of the demonic force was intensified by the fact that it was impalpable, incorporeal: it had neither volume, nor smell, nor sound and you will agree that a person who is used to dealing with the material world is unable to explain such a phenomenon. All the more so because it appeared in the world before him. He was born and grew up under the canopy of its wing and therefore perceived it as an objective, uncontrollable, inexorable reality.

But it is somehow impossible to believe that the practical peasant did not try to understand the force in whom he was placing his hopes. This was not in his nature. Yes, he tried. And for better or worse, he understood. And the understanding of his place was his first conclusion from reality: he was under. Under someone. Under anyone with rank. Under him there was no one. Above him were people with rank...The brigade leader, the accounts clerk, the agronomer, the manager, the director. His thinking did not stretch beyond this. Further on was that which was called the state and was perceived as inevitability. An enormous structure, the fruit of great minds, towered over the peasant, personifying in his mind power that no one can ever get rid of because it exists always and everywhere. The peasant did not even think of attacking this pyramidal structure and even if he did grumble and resist in some way, it was only the extremely cruel oppression of his immediate superiors.

But his superiors were only the base of the pyramid and the peasant, intuitively realizing that this base was invulnerable and uncontrollable as far as he was concerned, opted for one of two possible courses: either to get out from under the control of the given superiors or to place all his hopes in these superiors. The first path was outside the village; the second was in the village. Both one and the other essentially meant one and the same thing: adaptation to the universally dominant dictates of the administrative pyramid. Both paths proved to be disastrous to the peasant, to whom only one type of adaptation—adaptation to nature—was predetermined. There happened that which we now call depeasantization and the loss of the master and his moral essence.

Incidentally, this explanation of the pyramid belongs not to the peasant but to his learned son and grandson. It is they, the peasant's children and grandchildren, who finally discovered that this pyramid is not an objective but a subjective reality, i. e., that it was born of the mind and that it can be controlled by the mind and consequently that just as it has been put together so can it be dismantled. And as is the custom in Russia, after everything has been discussed by the entire village community, we commenced the dismantling countdown under perestroyka on April 5th, calling our new idea the New Agrarian Policy. Subsequent "Letters from the Countryside" will be devoted to it.

In the discussion that preceded the March Plenum of the Central Committee, there suddenly rang out quite strong voices arguing that the leasing of land and means of production should be authorized only within the framework of the kolkhoz and sovkhoz. Seeing around me numerous examples of the way in which the rural economic management office was smothering the lease in the embryo and rejecting all attempts by the worker to escape the power of the management apparatus. I published in SOVETSKAYA ROSSIYA a brief note entitled "The Second Dictate," in which I attempted to briefly substantiate the need for "free farming" based on the main economic consideration: the intensification of production. This will probably sound entirely convincing to the rational-thinking reader, but for the mass reader I fear it will not be enough that he will need the necessary tangible details, as the saying goes, a living human document. From the latest mail, I chose a school notebook containing the confession of Tatyana Prokofyevna Kashkina in answer to the correspondence. I recopy it in slightly abridged form without any literary correction.

"And so I persuaded my husband—a physicist by education—to move permanently to my beloved Smolensk Oblast, which I had loved so since childhood. I always crossed the line between Moscow Oblast and Smolensk Oblast with tears in my eyes and a feeling of trepidation. It is now the third year that we have been living in my beloved Smolensk Oblast. The trepidation is gone. Only the tears remain. This is what I want to tell you about.

"We chose our place of residence ourselves. Mama did not allow me to return to my home village. She rejected us in general as dissenters. She set a condition: 'Don't bring shame on me. If you return, I'll go to the gallows' (this at the age of 77 years!). The raykom [rayon party committee] offered us several sovkhozes and, after choosing one of them (at a considerable distance from the place where I was born), we settled in. I lived more than 2 months in the same rayom as Mama. I was dying to see her but I did not dare to show myself in front of her. They believed that if someone came back to the village from the city, this meant they were somehow inferior. They had either been driven away, had turned to drink, or something else that was negative. And there had been the apartment in the city. My husband was a nondrinker, had a clear head and was very good with his hands. My countrymen greeted me very much on their guard. Even with a show of ill-will. During our very first days, the chairman of the village Soviet warned us: don't talk back to the director. If you displease him, he will throw you out. To us, this was like being hit in the head with a rock. We started looking around us. And I found to my horror that my countrymen were not at all the same people I had left here in 1963. The old well-wishing, hospitable, charitable attitude was gone. Instead, there was clearly pronounced cruelty, bitterness, indifference, hypocrisy, and insuperable fear. You ask: 'Fear of whom?' I found the answer to this question in your little 'Bonapartes.'

"I am sincerely sorry for Mikhail Sergeyevich. I recently saw him on television and I wanted to tell him: 'Mikhail Sergeyevich, you don't have to convince and persuade us of the need for perestroyka, for more social activism! The workers have long ago agreed with you. The ones who disagree (to themselves) are the administrators. They create the illusion of perestroyka. But they undertake nothing and make a lot of noise just for show. People simply see the "wishes" of the administrators and, having learned by experience, do not ask for trouble. They will only get it in the teeth, that's all.'

"How can the social activism of a sovkhоз worker be raised if during 20-plus years work (on our sovkhоз for example), the administrator has only taught them to be obedient. To have no right to their own opinion and if they have an opinion, God forbid that they should express it out loud—you will be kicked off the sovkhоз under any pretext. And this at a time when there is a personnel shortage. Perhaps this is done deliberately so that the personnel shortage can be blamed for everything. The low milk yield, the bad feed, the crop failure.

"How can it be that after 70 years of Soviet power and 20 years experience as a director, a rural supervisor will say to his [female] employee: 'Don't forget, girlie (this girlie is over 40...) that you are walking my land. I am Tsar and God here!' I am shaken, even though I have heard and seen such things continuously for two and one half years. My husband is the only person with higher education on the sovkhоз. All intelligent, competent workers have

already been driven away. The only ones left are cowardly, servile hypocrites or those with 'peccadilloes,' i.e., those who like to drink. The administrator keeps them all in his sights like members of a penal battalion. Just let anyone dare make a sound. There is not a single specialist who knows what he is doing. Everyone is a jack of all trades. To be sure, there is the chief livestock specialist and his wife who is a pensioner. But for some reason, the chief... economist is the one who is scolded (even at the rayon level) for the nonfulfillment of milk and meat quotas. But it would seem that the chief livestock specialist is not to blame here. It turns out that the economist is blamed for not introducing new forms of pay. But when the same economist is talking with an equipment operator about a lease, the director butts in saying: 'I don't want to hear anymore about any Volochenskiys! Our peasant is not yet sick in the head!'

"At all meetings, he categorically declares: 'As long as I am director, we are not going to change anything!' What can an economist do in such a case? Everyone sees that there will be no changes as long as he is director and patiently waits until he retires on pension. This year, he will turn 60. But he has no intention of retiring. He has a pretty good reputation at the rayon level. It is said that he is a strong master and that he knows how to manage people. This is astonishing since the sovkhоз for the third year is not meeting its quota for the sale of milk, meat, grain, and flax even though the collective is considered to be among the leading collectives in the rayon. The sovkhоз balance commission declared the collective's work to be unsatisfactory based on the totals for 1988, but on the basis of the totals of the rayon balance commission, the sovkhоз was awarded first place, was next declared the winner of the socialist competition, and was awarded a banner. For what? This was a puzzle to all of us. To be sure, there are those who say: one hand washes the other. There is an unhealthy atmosphere in the rayon itself. The heads of the raykom, rayispolkom, raypo, RAPO, the procuracy, and the rayon newspaper behave like appanage princelings. They can allow themselves to organize collective drinking bouts in the out-of-doors to use state vehicles to go fishing and hunting. Everything with them is like water off a duck's back. They carouse all they want. The sovkhоз is far from the rayon. The locality is beautiful. There is much game. Our bathhouse has sauna and a swimming pool. A special room has been outfitted for them. As the bathroom attendant says, for the command staff. And there they live quietly. They are served meat at low cost from the dining room and they write flattering articles in the press. If the director likes someone, they praise him. If he doesn't, they pan him.

"This is how it is on our sovkhоз: if it is a more or less good harvest year and if the sovkhоз comes in for praise, the director alone towers over all specialists and everyone except him is for some reason in the shade. But if, God forbid, it is a year of crop failure or there is cattle-plague, he suddenly recalls the specialists and directs blows against them. He personally is in the shade.

He is now trying to get rid of the chief agronomer. The latter has already handed in his resignation even though he has worked here 18 years. The director has broken him. The latter resisted for a long time but gradually began turning to the bottle. And yet he is an excellent organizer of production and a pretty fair specialist. He has just returned from month courses. But I have more than once witnessed the following scene (I work as a norm-setter in machine shops): the morning planning meeting comes to an end and the agronomer hands out work assignments to the machinery operators. About 30 minutes later, the director comes and personally gives each driver and tractor operator a work order. Moreover, he does so demonstratively so that everyone can see. The tractor operator is given an assignment that is entirely opposite to the assignment he received from the agronomer. The agronomer stands there and says nothing. But he is white as a sheet. And so it goes every day.

"Everything else follows from this. Nowhere is there order. No one trusts anyone to do anything. One for all. Everyone—equipment operators and specialists alike—works under the lash. The work is boring. There is no job satisfaction. The personal plot is the only consolation. And it cannot be said that our equipment operators are bad. They are hard workers. They are professionals. They disassemble tractors and machines down to the last screw in our totally unequipped shops and then put them back together again. They work well in the field. But they have no life. They go to work in the morning, not knowing what awaits them. Not knowing what they will be doing. And I can never understand why our sovkhoz is being praised. After all, no one has normal working conditions: The equipment operators have to repair their machinery in cold, damp, drafty shops. They have nowhere to wash their hands, to say nothing of the machinery or parts; the milkmaids have nowhere to dress or wash; nor do the specialists have normal working conditions (for some reason the director spends entire days sitting in the bookkeeping office). The director is to be found in his own office only when higher-ups visit, so that he can talk to them without witnesses. But he receives sovkhoz personnel in the bookkeeping office on all production-related and personal matters. There you stand in the middle of the bookkeeping office. Everyone is sitting around, gaping at you and listening to the request you make of the director. When he talks to you, he does not look you in the eye, but rather looks out the window. He talks so that everyone can hear. We say he is 'playing to the crowd.' Everyone knows that if one asks him a personal favor in the presence of others, he will invariably refuse. For this reason, people try to catch him when he is walking by himself, in the corridor, or on the road. Heaven forfend that he should stop and talk to you. His majesty will never condescend to do so. He will talk with you without breaking stride. You can look devotedly into his eyes from the side or walk behind him, asking him to repeat what he says. This is how our director treats his subordinates.

"At the director's quarters, the chairman of the village Soviet, the chairwoman of the village Soviet, like the

sovkhоз's specialists, must show up for the daily planning meeting by 0700 hours, where she, every day, is given orders to perform various kinds of work. For example, to make hay, to dry grain, to sort potatoes, to load feed, or to cut conifer branches. Depending on the season and the weather. If she obeys, the director will take her with him to the rayon session or to a meeting of the party economic aktive (and suddenly there will be no room in the car for the party organizer) but if she slips up somewhere along the way, she will pay for it. A signal will immediately be sent to rayispolkom or raykom that certain people aren't earning their keep. And since he is a member of the bureau of the raykom of the CPSU, and has been for many years, and since he is the most esteemed sovkhoz director (like a wedding general), he has the authority. And just let some green party organizer or chairman without authority try to exonerate themselves. The bigshots will come down on them.

"There is one more striking fact: he attends all official functions alone and when he comes back he does not tell anyone anything. Everything is completely secret. He went alone to meet with the delegate to the 19th Party Conference. When he came back, he said not a word. He was the delegate to an oblast party conference. When he returned from the conference, he said not a word. It was a good thing that the television program 'Vremya' and the press carried reports about it. He attended advanced training courses once again, not a word about them. Can it be there is nothing that the people should be told?"

"My family would like to enter into a lease agreement, but we are waiting until the director retires because he will not allow a lessee to work in peace. He is very much afraid of losing his authority. At one of the meetings, he spoke out as follows: 'All of you are waiting for me to retire! I am not going to retire. I will be your director until I die!'

"He is on his high horse. He placed a help wanted ad in the newspaper. The letters come by the hundreds. They are read aloud to the entire office. The desired ones are chosen. The people come with hope for a bright future. They have no suspicion whatsoever of what awaits them. Our personnel turnover is high. People do not endure it very long. They exert themselves to the utmost and leave. Of all those who arrived in 1986, only my husband and I remain. We have proven to be the most hardened against all adversities. But how many have left! Our neighbors, the Korolkov's, have left. We still feel sorry for them. She was a young, front-rank milkmaid and he was a shepherd. They had three children. The sovkhoz director did not condescend to talk with them like human beings or to eliminate the reasons why the young family left. Lyuba wept on the last day as she was transferring her herd of cows. 'I feel sorry for the cows.' In a week, they sold their own livestock, slaughtered all their animals, sold the meat, and left. As the director says: 'There are enough fools to last me all my life.'

"A new family moved in in the spring. They were still in high spirits in the summer but later on I noticed that they had become dispirited. Their heads were bowed. Now they are getting ready to leave. Quietly. They are selling the livestock they have raised. They have realized that they will not find the truth here. That if they begin to seek the truth, they will be ground to powder. You can get a bad mark in your work-book or an insane amount can be withheld for apartment repairs or for cattle-plague. Judge for yourself. And how many of them are yet to come and go. They are brought here by sovkhoz transport, but they leave by whatever means they can. Some of them leave on foot. They only want to get as far away as possible. Where and to whom can anyone complain? Who will take those who are not known by anyone here under their protection? After all, the director will immediately telephone the rayon and give everyone the proper character reference. This one is a loafer, that one is a drunkard, this one is looking for easy money! And who will verify the accuracy of these statements? No one has any interest in them. How wrong this is! Nothing can compensate the material and moral losses of these families. Just try to move from Rostov Oblast or Moldavia, for example!

"The raykom does not monitor, does not analyze the sovkhoz's manpower turnover. Everything is allowed to take its own course. More accurately, everything is left up to the sovkhoz directors. And the latter, according to their intellect, are guided by the principle: I do what I want. Hence, dictates flourish here.

"You will not believe it, but people hide when the director passes through the village. Especially in summer. They peek around corners, from behind a bush, or behind a window curtain (to see if he has passed by). He saw my husband one Sunday in the winter shoveling snow off the veranda roof. The director went swimming alone in the pool during the day. Even though the bathhouse is open in the evening. (This is for everyone. He, however, goes to the bathhouse all by himself). At the Monday planning meeting, he gave him to understand that he might be sent into the woods to cut timber together with the tractor operators. But my husband works as the chief economist and he has a pile of work to do in the winter: the annual report and the industrial and financial plan for 1989. In addition to all this, he is also the part-time secretary of the party organization. They say that there are three communists too few for them to have a 'full-time' secretary. But this is only to divert attention. In fact, the director does not need a second master. He would only get in his way and interfere in his work. And the secretary does not have an easy time of it. Like the chairwoman of the village Soviet, he has no way of traveling to the rayon even when he is summoned. After all, all transport is in the director's hands and so everything depends directly on the director. Twenty-four hours a day!

"In the spring, the cultivation of gardens coincides with sowing. Chaos reigns. From 0800 to 2000 hours, equipment operators are working in the fields. But after 2000,

everyone—milkmilks, specialists, teachers, village Soviet personnel, pensioners—with a bottle or money in hand goes racing after tractor drivers in the hope of getting their potatoes planted. But before planting them, it is necessary to apply manure, to plow, to harrow. And here is a paradox! We hire the tractor driver personally (having run after him through the countryside for a week), we hire his personal time, but he uses a sovkhoz tractor. However, the bookkeeping office then charges you in full measure for all types of cultivation work according to the norm. As if the tractor driver had been paid nothing, as if no one had run after anyone, as if he had arrived during regular working hours according to order and had calmly performed all field work according to the approved sequence.

"And then haying begins. Again people go running after the tractor drivers. And everything is done outside normal working hours, after 2000 hours. This is because everyone—those who are doing the mowing and those for whom the mowing is being done—is working up until 2000 hours. It is impossible to mow manually. Try to get it done in the morning. At 0500 you travel three-four kilometers to the hayfield. At 0700 hours, you attend the planning meeting. In the evening there is no time to mow. In the evening you hope to make your hayricks in time. My husband reaches his hayfield after 2000 hours, at about 2030 hours. The hay is already 'receding.' The trick is to get to the hay before it rains. But it cannot be mowed any earlier. To date, the sovkhoz prepared less than 50 percent for itself. The sovkhoz immediately puts its hay into haybarns. But the sovkhoz workers' hay is exposed to driving rain in the meadow all during autumn and is rotten before the first frost. The system was developed long ago—more than a single decade ago—and no one dares to break it.

"What is involved in keeping a cow in our day? It means getting up at 0400 hours every morning (no days off), milking the cow, and driving it out to pasture. Before you go to work, people cry: 'The cows are coming.' There are no strict regulations. Midges, mosquitoes, and gadflies are regulated by nature. The herd can come home at 0800, at 1000, or at 1200 hours. This is a merry-go-round. And you have to be careful that the director doesn't see you too much. Then you go to lunch at 1300 hours. You run to milk the cow, to water the calf, and to feed the piglet; you run to get back to work by 1400 hours. At 1500 hours, you drive the cows back out to the field. In the evening, it's back to the hayfield. The garden is overgrown and the cucumbers are ripe. On Saturday and Sunday, we see citydwellers carrying berries and mushrooms by us on the street. But we have no time for them. And we have almost no days off. We are so physically exhausted that when visitors come from the city, they are surprised. The ask: when do you get any sleep? We sleep 4-5 hours a day. We are running on our nerves the entire day, trying not to be late, not to make a false step! Life becomes hateful!

"I have not yet said anything about the villagers' social conditions. What kind of apartments do the villagers

have? Almost all of them have sovkhoz apartments. Externally, they are all faceless and gray. Go into any house. Will you find in it a nook where a woman can take care of her personal needs? No, you will not. Nor will you find a bathroom, hot water, or a feed-preparation kitchen. People here do not even suspect that there are designs of rural houses with feed-preparation kitchens. But we use the same stove to cook food for ourselves and for the pigs. For 30 whole years, the sovkhoz stamps out apartments according to a single, antediluvian design.

"We do not have bus service to the rayon, to the hospital, to the railway station. There are no hardtop roads. Do you not see the intention here? There is one. As the people say in the village, if this were not the situation, the director would lose his authority over the people. They would then be able to use public transit for their personal (and official) business, but he is accustomed to everyone coming to him with hat in hand on all matters, great and small!"

"Nevertheless, people do not want to leave the places that are home to them. They love their own places. They lose everything. They expect change. But they are totally unable to rise up themselves. But there are very good, industrious people. How they long to be independent!"

"My husband says: 'It will require slow, painstaking work if work collective councils [STK's] are to take power. The STK must become the second director.' How will it perform its work if everyone is under the director's heel? The STK was elected a year ago. In a purely formal way. It was a play that was staged by the director. One felt ashamed to be present. One was a friend of the director, a second was the son of a friend, a third was a silent being, a fourth was a total fool. No one took him seriously even if he chanced to speak. The work collective council did not meet once in an entire year. Everyone forgot about it."

"Nor is our director very kind to those who take it into their head to attend school or who are already doing so. He becomes terribly irritated. Try to replace a milkmaid for the duration of a session! 'We do not need scholarly milkmaids,' he says. So it was that Lyuba Korolkova had to quit the technicum. The same situation exists for equipment operators. Two people went to attend a session and he growls at them. When they return, he will look askance at them."

"Once we were driving with the village Soviet chairwoman to one of the villages in the spring (I was still working in the cultural center. The school had given us its little tractor. My husband was behind the wheel and we were seated in a cart). Coming toward us was the director in his UAZ-469. Smoke rose from the forest behind him. I asked: what is that? Why is the forest burning? The chairwoman replied: 'The director is having all the mushroom and berry fields burned so that the workers won't go berry and mushroom picking in the summer.'

"You ask: but where is the raykom? I do not know. I recall that last spring, people were sorting seed potatoes in the field. They were for the most part pensioners. The raykom first secretary drove up. He inquired about the director's whereabouts from a distance and drove on by. He could not even walk up to the people and say hello to them. Why could he not go up to them and say: 'Grandmothers, how are things going?' We know the general secretary better than we do our rayon secretary. Where does such a high-and-might attitude toward people come from? Is there perhaps a fear of walking up to people? And the director himself continuously keeps them away from people. And so it is that they live year after year like serfs. Not long ago, an elderly milkmaid, a local woman, complained to the first secretary about the high incidence of murrain among calves. At an animal husbandry meeting, the director depicted her as a full for everyone's edification. He told her: 'You must not behave like that. It's a good thing the first secretary knows that we have a good calving rate.'

"What will things be like in the future? People will not say anything in the future. But the state of affairs is very much to the liking of the rayon leadership. There are no troubles. It communicates only with the director and he provides information that is to the rayon leadership's liking. And rayon leaders get a distorted picture about the real state of affairs in the economy. The rayon will never be restructured at this rate. They make a lot of noise there for the sake of decorum. That is how things are."

"The last thing I want to tell you. We have been living on the sovkhoz for almost 3 years now. But in all my life, I have never felt myself to be so useless as I am here. We are maltreated. Only the hope of a lease arrangement keeps us alive. And after all, we came here voluntarily. How long can we be tested for our endurance?"

Well, there is reality for you in all detail. This is the "second dictate"—the reduction of a person to the degree of speechlessness. What is the power base of such "little Bonapartes?" It is the same as the base of the entire bureaucratic pyramid—the indicator, the gross numbers approach, the beautiful figure in the report. But since the "figure" is given by a manager, it is to the liking of the entire executive corps. It is naive to think that rayon and oblast chiefs will begin cutting the bough they are sitting on. Since the entire economy is based on the "gross" and since the "gross" is strictly demanded of party and Soviet leaders, there must inevitably be an alliance between functionary and economic manager, the main figure in which is the latter on which everything is based. Thus it is pointless to rely on a "higher" power that is supposedly capable of quieting "rural dictators." It is more likely that they will quiet power that displeases them. As we see, the economic office has become fused with the party and Soviet apparatus—the "sole" dictates the "gait" to the entire pyramid, i.e., its own way of thinking and behaving. Who can break this alliance-brake.

There is one force: the people. The essence of the new agrarian policy articulated by the plenum of the Central Committee consists, to put it briefly, in overcoming twofold alienation: from property and from power. M. S. Gorbachev emphasized that in the complex of measures indicated by the party, the key position, the basic point is the restructuring of property relations, the restructuring of production relations. Restructuring is directed by the party. This means that if the party committee wishes to be in the vanguard of modernization, it must bypass the economic office and speak directly to the worker: seize the land, seize power, we will help you. It will help by breaking the alliance with the economic manager and through the property and sovereignty of the Soviets will affirm new production relations, i. e., the worker as the master and the command office as the service element. It is specifically here, at the lower levels of the management pyramid that the main struggle for democracy begins. Its success, I repeat, depends on the party committees, on whose side they take: the worker or the bureaucrat.

### Call for Agricultural Pricing Reform to Help Cut Food Imports

18240173 Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 May 89 p 3

[Article by D. Bulatov, economist: "How to Patch up an Old Coat"]

[Text] Until recently everything relating to the purchase of agricultural products remained under a curtain of secrecy for us. Even now, such information, in addition to that which is really a commercial secret, is protected at least as carefully as military information. Nevertheless, factual material on this subject is regularly published in great detail abroad. Thus, it is known here. Data on how much foodstuffs are annually imported by our country, what kind and from whom, are a secret only to Soviet citizens.

There are explanations for such silence. They can be no cause for pride: Until recently about 20 billion dollars annually, one-fifth of all our imports, were spent on foodstuffs or raw materials for their production. This has now been reduced to 15-16 billion; however, it is too soon for joy. The reduction is due to falling world prices for several agricultural products, and not to a decline in our demand. The USSR remains the world's largest grain importer, most shamefully, not only of feed grains, but of food grains. At the beginning of the century there was an expression for an unlikely event: "That is as impossible as Russia starting to import grain." Now we purchase 20 percent of the wheat entering the world market.

The first sizable purchases were made during 1964-1966. Later our country again became an exporter. We became a chronic importer of grain starting in 1972; that was not under Khrushchev, as is usually assumed, but under Brezhnev. Gradually imports became an alternate source of food and feed supplies.

Now sugar has been added to the list. In 1985, 4.3 million tons were purchased; today the volume exceeds 5 million tons. World market prices for this product have more than doubled. UN experts view expanded demand by the Soviet Union as the main reason for the boom in the sugar business. Here is a school problem: Calculate how much poorly thought-out measures in the struggle against drunkenness cost us, when we now have to spend hard currency to import more than 1 million tons of sugar.

Each year agricultural imports devour ever greater shares of income obtained from exports of oil and gas, which in contrast to grain are nonrenewable resources. Their consumption is comparable to selling territory. If only the money earned went to purchase modern technology and know-how so essential to the accelerated development of our national economy, including agribusiness! Just during 1981-1985 the USSR spent about 100 billion dollars on agricultural imports! What if this went to the development of the APK?

Grain exports in 1933, when millions of people in several regions of the USSR died of starvation, were considered one of Stalin's most serious crimes against the Soviet people. But what about the policies of the Brezhnev leadership?

Have we been able to avoid such an approach? Alas, no. Imports are still viewed as a way of "closing the holes" in agriculture. Foreign sources are used mainly to acquire what is not produced in sufficient quantities in the plan.

It would be useful to consider the experiences of the "great agricultural powers," where production is oriented mainly towards products most suitable to the climate. Their export pays for food imports. The United States, the world's largest grain supplier, also imports sizable quantities of tropical fruits, coffee, cocoa, tea and speciality items. In our import business these items play a third string role, as the main imports are grain, meat and dairy products and temperate zone fruits and vegetables; that is, the items we should be able to produce ourselves.

Leading grain-producing states take decisive measures to protect their farmers from foreign competition. We do the opposite. Imported grain arriving in the USSR is priced so that it is more profitable for the Ministry of Grain Products to purchase it rather than domestic grain. The difference is paid from the state, or more accurately, the public purse.

It is no accident that an idea has arisen from desperation: Pay our farmers hard currency for their grain, so that the dollar subsidies will go to support domestic, and not foreign competition. Of course, this proposal has not been thoroughly thought out; its originators do not consider how such currency is obtained. If this idea were

implemented, one state organization would continue to intensively pump oil and gas in order to earn dollars which another organization would pay out to kolkhozes and sovkhozes.

However, it is necessary to think about how to put these latter in a more favorable situation with regard to foreign suppliers. The recent introduction of a 100 percent markup on the hard currency/ruble exchange rate used for grain imports will hardly solve the problem. A very much higher financial barrier is necessary to eliminate the purchasing ministry's eagerness to buy primarily foreign products.

It has long been time to reexamine the entire purchase price system. In my view, setting stable prices for a 5-year period is fraught with the dangers from new shifts and profound disproportions in the structure of agricultural production. Agribusiness requires a flexible price mechanism linked to world market prices. This would permit us to quickly orient ourselves towards those products it is best to produce (including for export) in a given year and what should be purchased in exchange for our goods. Within a few years we could become a food grains supplier. Quite high yields of corn, soybeans, hard and strong wheat can be produced in Kazakhstan, the Volga regions and in the Ukraine and the North Caucasus. This requires expansion in the area planted to these crops, perhaps at the expense of rice and tropical crops, which at these latitudes yield only one crop annually.

Not all our cropland is in the "agricultural risk zone," as has been suggested for many years, justifying low yields. Some regions have unique natural conditions. It is only necessary that they be used to grow the most promising crops and not for the enforced planting of the "scientifically based" crop structure. The export of these crops would provide money for importing items which other states, where natural conditions are not much better, import in large quantities, and about which the ordinary Soviet consumer can only dream.

**Academician Boyev Discusses Pricing and Inter-Sector Relationships**  
*18240186 Moscow EKONOMICHESKAYA GAZETA in Russian No 19, May 89 p 15*

[Interview with Vasiliy Romanovich Boyev, academician, VASKhNIL, by A. Dzyublo: "Partnership on an Equal Basis"]

[Text] Economic interrelations between the city and the rural area, between the agrarian sector and the industry which supplies producer goods to the rural area were at the center of attention during the March Plenum of the CPSU Central Committee. How should these relations be structured? What must be done to ensure an equivalent exchange between the agro-industrial complex and other

spheres of the national economy? These and other questions posed by EKONOMICHESKAYA GAZETA are answered by VASKhNIL [Academy of Agricultural Sciences imeni V.I. Lenin] Academician V.R. Boyev.

[A. Dzyublo] Vasiliy Romanovich, what can you tell us about the price increase on producer goods and services offered to agriculture? Because, of course, it happens very frequently that kolkhozes and sovkhozes are compelled to pay increasingly higher amounts to their partners for these items and services. Is this being done as a matter of principle, or is it a case of imperfection in the economic levers?

[V.R. Boyev] First of all, let me note that, under the conditions of intensifying agriculture and deepening its ties with the service sector, there is an objective enhancement in the role to be played by prices on industrial products and services. Naturally, they are shaped, to a large extent, by the outlays and the level of profitability of the kolkhozes and sovkhozes. That's why it is so necessary to have price equivalence, or, to put it another way, equivalence of exchange between the rural area and its partners. We know that such an equivalence has been violated for a long period of time. And it's only recently that measures have been adopted for the purpose of changing this situation.

[A. Dzyublo] It's also well-known, however, that the annually computed price indexes for the sale of products and the acquisition of material and technical items for agriculture do not provide a complete picture of the state of affairs with regard to price equivalence. Do they really reflect the actual degree of the increase of prices on new industrial products and services in comparison with the effectiveness of the latter?

[V.R. Boyev] It's very true that they do not reflect it. In connection with this, we must not define the actual amount of agriculture's additional expenditures which are not compensated for by obtaining savings derived from the use of industrial products and services by kolkhozes and sovkhozes. It is precisely this hidden increase in prices which also leads to a violation of price equivalency. In our opinion, this is connected with shortcomings in the methods of setting up wholesale prices on new types of industrial products. Fundamental to such methods is the fact that wholesale prices at present are set up by the outlay method, i.e., they reflect the individual expenditures laid out by the manufacturing enterprises. The monopolistic position of industrial enterprises in setting wholesale prices and in determining technical policy inevitably leads to technical stagnation and transforms those who use industrial products into passive consumers, who have virtually no feedback economic ties with their suppliers.

[A. Dzyublo] But just what, in your opinion, is the root of the unjustified price increase on new equipment?

[V.R. Boyev] This is facilitated by the existing method of setting such prices. Let me explain. In order to verify the economic justification of wholesale prices in the planning stage, they are compared with the so-called limit prices. The latter, as you know, are based upon taking into account the effect which should be obtained by the consumer from utilizing the new machines instead of the ones being replaced. The wholesale price is deemed economically justified if it does not exceed the limit price.

[A. Dzyublo] In other words, the principal function of limit prices is to prevent unjustified price increases on new equipment?

[V.R. Boyev] In principle, that was the intention when they were conceived. Under the conditions of the monopolistic position enjoyed by the manufacturers, the limit price is supposed to exert on them a pressure similar to that which they would have if they were in the "jaws" of a tight protection competition. As analysis has shown, however, at the present time, this anti-expenditure function has not worked out for a number of reasons, including those of a methods nature.

[A. Dzyublo] What is it which confirms this?

[V.R. Boyev] For most machines the limit prices have turned out to be much higher than the wholesale prices being approved. Thus, for example, the wholesale price of the ZSK-6.5 fodder distributor is 3,200 rubles, whereas the limit price is 9,012 rubles; for the KShY-12 cultivator—these different prices are 2,450 and 4,042 rubles respectively; for the PL-5-35 five-base plow—475 and 893 rubles; and for the KMS-4 potato planter—1,400 and 2,550 rubles. In all these cases the limit price is less than the entire limit of expenditures involved.

This circumstance also has other, even more serious consequences: the unjustifiably increased prices have not hindered the creation of inefficient, metal-consuming, heavyweight designs and structural components for agricultural machinery, i.e., fund- and capital-consuming variants of new equipment. This is attested to, in particular, by the significant gap between the rise in prices and the productivity of many machines. Thus, for example, with regard to the KSK-100 fodder-harvesting combine, when the productivity rose by 79 percent in comparison with the equipment being replaced, the price almost quadrupled; for the SKP-10 self-propelled mower, the productivity increased by 79 percent, whereas the price rose by a factor of 4.4. Computations have shown that the unjustified price increases on agricultural equipment during the years 1984-1986 amounted to approximately 6 billion rubles.

[A. Dzyublo] In other words, the enterprises do not always obtain the money that they earn because there is an unjustified price "spiral." But, after all this is also the picture in other things besides equipment. What is the rise in prices on other producer goods linked with?

[V.R. Boyev] With regard to industrially produced mixed feeds, for example, the price rise is conditioned by the fact that the prices are set on the basis of the cost of the selected raw materials included in the formulas with an equal content of raw protein. Year after year the farms receive mixed feeds of approximately the same quality at higher and higher prices. As a result, in comparison with 1983, the price rise on mixed feeds amounted to the following: in 1984—730 million rubles, in 1985—1,106 million, and in 1988—1,654 million rubles. It must be acknowledged that setting of prices on this type of product has been completely handed over to the manufacturer. The consumer has been removed from this process; he cannot check up on either the correctness of the computed prices or on the actual quality of the mixed feeds being produced. But, after all, the reduction of its quality (this, by the way, has also been noted) signifies a hidden price rise.

The manufacturer's monopoly manifests itself not only in higher prices and lower actual quality, but also in a certain "imposition" of more expensive types of products; this process is known as "washing out the cheap assortment." As a result, in recent years, for example, there has been an increase in the proportion of relatively expensive mineral fertilizers in the supplies being delivered to agriculture. The same thing has also occurred with the chemical means for protecting plants. The price increase on these materials during the years 1984-1988, as compared to 1983, amounted to 676 million rubles.

According to our calculations, the total sums of the unjustified price rise on the basic types of industrial producer goods and production-engineering services for the country's agriculture are growing annually by an average of more than 2 billion rubles, as compared to 1983 (taken as the base year).

[A. Dzyublo] In your opinion, what steps must be taken in order to establish genuine price parity between agriculture and the service sectors?

[V.R. Boyev] First of all, we need a system of measures to improve price formation on new products for production-engineering purposes. Wholesale prices on industrial-type producer goods must be brought into line with the actual effect which they provide to agriculture.

We must set up rigid monitoring controls to observe price equivalence. But we must not forget that it also presupposes an optimal utilization of production resources, improvement of their structure, and an enhancement of product quality. In short, in the rural area and in industry we need an equal responsibility for the results of our economy's agrarian sector.

**Leasing, Productivity, Machine Building Issues Aired**

18240200 Moscow PLANOVYE KHOZYAYSTVO in Russian No 6, Jun 89 pp 60-62

[Article by Candidate of Economic Sciences Ya. Belousko, senior scientific associate of the Ukrainian Scientific Research Institute of Economics and Organization of Agriculture imeni A. G. Shlikhter: "Leasing Forms of Labor and the Reserves of Agricultural Production"]

[Text] As was noted at the March (1989) CPSU Central Committee Plenum, "Enormous capital investments and other material resources have been directed into the agrarian sector in the last few years. But significant results, ones adequate to these outlays, have not been received" (PRAVDA, 16 March 1989). Thus, the capital-output ratio and the materials intensiveness of agricultural production have increased dramatically. While in 1971-1975 there was 0.74 rubles worth of agricultural fixed productive capital for every ruble of gross production in kolkhozes of the Ukrainian SSR in 1971-1975, the figure was 1.42 rubles in 1981-1985, 1.58 in 1986 and 1.59 rubles in 1987, while the outlays of material resources increased correspondingly from 0.33 to 0.45 rubles, 0.48 rubles and 0.49 rubles. During this time the capital-output ratio of production in sovkhozes more than doubled, while materials intensiveness increased by 43 percent.

An analysis of business practice shows that kolkhozes and sovkhozes possess considerable reserves for reducing the capital-output ratio and materials intensiveness of production. The principal ones are as follows.

**Optimization of the structure of consumption of material resources** can ensure success with insignificant material outlays, as is evident from the example of the grain and animal farms of two rayons in Kherson Oblast enjoying practically identical soil and climatic conditions. These farms are divided into three groups in relation to their gross production per 100 hectares of agricultural land: the first—up to 35,000 rubles, the second—35,000-40,000 rubles, and the third—over 40,000 rubles. Kolkhozes of the second group, which increased their outlays of material resources by 20 percent, received 15.6 percent more product than the first. On the other hand the third group of farms, which increased material outlays by only 12 percent, received 38 percent more product than kolkhozes of the first group. In them, the capital-output ratio and materials intensiveness of production are almost 20 percent less.

Kolkhozes of the third group attained such high results because in comparison with kolkhozes of the first group, they consumed 1.2-1.8 times more material resources that actively promote an increase in the productivity of crops and animals and a decrease in the capital-output ratio and materials intensiveness of production—fertilizers, plant protection resources, biological preparations,

medicines, feed and electric power. At the same time their outlays on fuel, lubricants, spare parts and on payment of production services are significantly lower. More effective proportions have evolved in these kolkhozes between the active and passive parts of capital, between power and working machines, between caterpillar and wheeled tractors, between nitrogen, phosphorus and potassium fertilizers, between concentrated and succulent feeds (summer pastures in particular), between fixed productive capital and working capital, between available equipment and availability of repair materials, and between payment for paid services and the dimensions of their own machine and tractor fleet.

**Introduction of leasing forms of labor organization and stimulation** provides a very fast return with practically no additional outlays. However, this return varies in size depending on the form of leasing. The fact is that as experience shows, basically two forms have now developed in the kolkhozes and sovkhozes: the leasing contract, and legally and economically independent leasing collectives. The **leasing contract** is developing on the basis of the organizational principles of the collective, family or individual contract. Land, equipment and other resources of production are transferred to the lessee by contract. A corresponding lease payment is made for them. Products are sold to the farm on the basis of accounting prices effective within the farm, while material resources are purchased on the basis of planning and accounting prices, and their consumption is monitored by means of checks or conditional banknotes. This form of leasing relations is very simple and understandable to peasants, and therefore it is widespread. Its effectiveness is higher than that of traditional forms.

There is another form that possesses a considerable potential impact—**independent leasing collectives**. It is less widespread, inasmuch as it requires a certain psychological preparedness on the part of the peasant, who must have business sense and a high degree of professionalism. Within the very first year of its introduction, this form ensures a 35-40 percent increase in production and a 25-30 percent decrease in the capital-output ratio and materials intensiveness, of course assuming that the principles of its organization and introduction are economically justified. An analysis of accumulated experience makes it possible to recommend a number of general basic principles: Land, farms and production resources may be leased for a term of 5 to 50 years, as was legislatively established following the March (1989) CPSU Central Committee Plenum; the lessee must pay for all material resources utilized in production; the lessee should be granted the right to dispose of his products; the lessee must make lease payments which must be based on a certain part of differential rent; with the consent of the kolkhoz, the sovkhoz and a representative of the local soviets, leased land, production resources and so on may be transferred by inheritance if the inheriting lessee is able to show the knowledge, ability, experience and desire to carry on the production operation.

In this form of leasing relations it would be more suitable to organize economic mutual relations between lessee and owner on the same basis as mutual relations between owners and the state. This means that an account may be opened in an agricultural bank or a personal account may be opened within the farm providing the loan to pay for material production outlays, and separately for wages, on the basis of property liability. The lessee purchases material resources and sells his products on the basis of existing state or contracted prices. The proceeds from sales are entered into the lessee's settlement account or his personal account. These proceeds are used to cover all outlays on acquisition of material resources and payment of loan interest, and a certain share is subtracted from them for maintenance of administrative staff and for development of the material and equipment base and social, cultural, personal and trade services; this share is determined by the specific conditions at each farm. The remaining sum makes up the lessee's income. It is used in accordance with established procedure to pay off wage loans, to pay state income tax and to create centralized social security and social insurance funds.

**Change of technical policy in agricultural machine building** is an effective means of reducing the capital-output ratio and materials intensiveness of production. However, it takes a long time to introduce such a measure. Striving to increase the labor productivity of certain agricultural jobs, machine building enterprises are producing large machines such as the T-150, K-700, Don-1500 and others for kolkhozes and sovkhozes. They are extremely power intensive, and therefore they are very expensive, and lessees refuse to lease them. But the main shortcoming is that they are heavy. According to the data of many scientific research institutions, owing to high pressure upon the soil, the wheels of these machines destroy the soil structure to considerable depth, and it takes more than a single decade to restore it. The yield of agricultural crops decreases by 15-20 percent and fuel consumption increases by 15-30 percent in comparison with the DT-75 tractor, and soil working implements wear faster. Thus we find that the entire increase in yield brought about by crop selection is cancelled out by heavy machines and implements. The developers of agricultural machines are presently directing their efforts on sharply reducing the weight of the latter. Integrated development of new models of machines and new procedures for producing agricultural products will make it possible to raise yields by 15-20 percent and reduce the capital-output ratio and materials intensiveness by 10-15 percent.

**Regulating the existing crop rotation system** is especially urgent, inasmuch as the crop rotation procedures employed in the country's zones of intensive farming are imperfect. The fields are large in size—they attain 150-200 hectares, and the crop rotation cycle is 10-12 years. Owing to this it is difficult to develop these fields, as is evidenced by many years of experience. Moreover their utilization requires creation of production collectives

numbering not less than 25 persons. But sociologists assert that a collective consisting of 5 to 10 persons is the most effective. It is precisely in such collectives that a favorable psychological microclimate and creative social and production relations evolve. This is why reducing the proportions of crop rotation and the crop rotation cycle will promote extensive introduction of leasing relations, and in general it will raise the rate of growth of production and reduce its capital-output ratio and materials intensiveness.

**Establishment of a scientifically grounded correlation between growth of the selling prices of production resources and growth of the useful impact from their utilization.** Such a correlation has not been observed for a long time in relation to many types of agricultural equipment. For example in 1971 the K-700 tractor's selling price was 10,000 rubles, or 50 rubles per horsepower. Later on the K-700A began to be produced by industry in place of the K-700. Its selling price was increased to 10,700 rubles, and as of 1 January 1982 to 11,975 rubles. This is 53.5 and 59.9 rubles per horsepower respectively. The prices of the MTZ-80L tractor, the T-74, the YuMZ, and grain-harvesting, beet-harvesting and other combines are growing disproportionately. This is why we observe not so much a quantitative as a cost increase in relation to the basic production resources of agriculture, which is worsening the capital-output ratio and materials intensiveness indicators of production.

If a rise in prices on production resources is unavoidable, then their growth should correspond to the actual increase in the useful impact from their utilization. This measure would eliminate the negative tendencies in formation of the productive capital of the farms.

As we can see, the paths of and reserves for reducing the capital-output ratio and materials intensiveness of production are diverse. Their full utilization depends not only on agricultural workers. The efforts of machine builders, workers of business, planning and financial organs and of scientists are required.

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## REGIONAL DEVELOPMENT

**VASKhNIL Academician on Impact of Chernobyl Accident on Agriculture in Surrounding Region**  
18240154 Moscow SELSKAYA ZHIZN in Russian 4 May 89 p 3

[Interview with R. M. Aleksakhin, VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin] academician and Deputy Director of the All-Union Scientific Research Institute of Agricultural Radiology: "In a Special Zone"]

[Text] Chernobyl... Today the entire planet knows about it, and thinks about the consequences of the accident, which perhaps are even more burdensome than the accident

**itself. Is this so? This is the subject of the discussion by a reporter from SELSKAYA ZHIZN with R. M. Aleksakhin, VASKhNIL academician and Deputy Director of the All-Union Scientific Research Institute of Agricultural Radiology.**

[Aleksakhin] As a result of the accident at the Chernobyl AES [Nuclear power station] a significant portion of agricultural lands in the Ukraine, Belorussia and a number of western oblasts of the RSFSR were subject to radioactive contamination. Reclamation of the land that contains elevated quantities of radioactive substance has become one of the most decisive links in the complicated complex of measures to eliminate the consequences of the accident at the Chernobyl AES. After all, it is precisely agricultural production, containing radionuclides, that is the main source of additional (beyond background) irradiation of the population living in the "zone."

It should be said that native agricultural radioecologic science, which has studied the migration of radionuclides within the sphere of agricultural production, has accumulated extensive experimental material on the movement of radioactive substances within the soil, agricultural crop and animal system. Also, effective methods for decreasing the movement of radioactive nuclei into food products have been developed and tested in practice. One of the closest scientists to D. N. Pryanishnikov, VASKhNIL academician V. M. Klechkovskiy, who started the school of Soviet radioecologists, the activities of which have become world famous, is rightfully considered to be the founder of this science. It should be noted that a powerful impulse to the development of this direction in agricultural science was provided by the testing of nuclear weapons and by the related distribution of man-made radioactive substances throughout the entire world. Work in the area of agricultural radioecology has made a noticeable contribution toward providing a foundation for the need to prohibit such testing. As a result, as nuclear energy has developed and as the number of nuclear power stations has increased it has become clear that radioecology, including agricultural, must provide answers to questions of guaranteeing nuclear safety in the work of enterprises that belong to the complete nuclear fuel cycle.

[SELSKAYA ZHIZN] What specific measures are being implemented today that will enable us to eliminate the consequences of the Chernobyl accident?

[Aleksakhin] First of all, this includes the liming of acidic soils and the application of fertilizers, including organic—manure, peat. From well-fertilized and thoroughly limed soils the movement of radioactive substances into the plant decreases by a factor of 1.5-3. In the accident zone the main polluting radionuclide is the long-lived Cesium-137. Its half-life is 30 years. It is this that creates the long-term—decades-long—danger of radioactive contamination of agricultural lands following an accident. Considering the fact that Cesium-137 is

a chemical analog of another alkaline element—potassium, which is one of the nutritive elements widely applied with fertilizers, in the accident zone special attention must be given to the normal potassium supply, which is applied in doses double those that are planned as the optimum norm. The liming of the soil and the application of elevated doses of mineral fertilizers enable us to noticeably decrease the accumulation of Cesium-137 in the main agricultural crops.

[SELSKAYA ZHIZN] The insidiousness of Cesium-137 for man consists of the fact, in particular, that in the accident zone it pollutes milk. What is the solution to this problem?

[Aleksakhin] Radical reclamation in the meadow zone is of primary importance. The radioactive characteristics of the movement of Cesium-137 (and other radionuclides) in meadows include increased access by grass of radioactive substances. This is related to the fact that the radionuclides that fell from the air during the accident accumulated in the meadow sod (partially decomposed remains of plants) and in this condition they are easily assimilated by crops. The replowing of meadows and the change of natural pastures into highly productive artificial pastures results in the mixing of the radionuclides with the mineral portion of the soil and in the final analysis greatly hinders their movement into meadow plants. As a result of radical reclamation of meadows the Cesium-137 content in meadow plants decreases by a factor of 4-6, and sometimes of 10. This considerably decreases radioactive pollution of milk and meat.

Research carried out in regions that have suffered as a result of the accident has shown that in milk that is produced from cows on private plots the concentration of Cesium-137 is higher by a factor of 1.5-2 than from cows in the public herd. This is related to the fact that private livestock is allowed to graze on forest edges and on land unsuitable for anything else. This is why the transfer of these animals to specially-allocated pastures, and first and foremost artificial and highly productive, is especially important for obtaining pure milk and for satisfying the demand of the local population for this product.

[SELSKAYA ZHIZN] Do all plants absorb Cesium-137 to the same degree?

[Aleksakhin] This property depends greatly on the biological characteristics of the plant. Thus, a lesser concentration of Cesium-137 characterizes the grain of cereal grasses (as compared to the green parts of these plants) and many root and tuber crops (potatoes, beets); the concentration of Cesium-137 in corn silage is also not large. On the contrary, peas and buckwheat seed is characterized by its ability to accumulate this radionuclide in higher concentrations.

[SELSKAYA ZHIZN] And what should we do with meat livestock that is in the accident zone—can its meat be used?

[Aleksakhin] The accumulation of Cesium-137 in muscle tissue and its removal from the body occurs fairly rapidly: in 10-14 days the content of this radionuclide in muscle decreases by half. Today a highly effective method of obtaining meat in which the Cesium-137 concentration adheres to the standards of the USSR Ministry of Health has been proposed and is being used widely. About 1.5-2 months before slaughter the animals are changed over to feeding with only clean feed, which facilitates the production of suitable meat. It is only important to make sure in good time so that the clean feed is produced or brought in from other regions.

[SELSKAYA ZHIZN] Is it possible to clean radioactively-polluted meat and milk in the course of processing?

[Aleksakhin] It is. Milk is especially effectively cleaned during processing. Thus, when cream is produced the concentration of Cesium-137 decreases fivefold, and with the production of butter—by a factor of 6-7. It is more difficult to clean meat, although during cooking a portion of the Cesium-137 breaks down.

[SELSKAYA ZHIZN] It is not difficult to understand from the data and ideas that have been presented that today the most important thing is to decrease the movement of Cesium-137 into agricultural products from the soil. What is being done to achieve this goal?

[Aleksakhin] Around Chernobyl we find light sandy and sandy loam soils poor in nutritive substances and with little humus. Unfortunately, the movement of radionuclides from it, including of Cesium-137, into plants is greater than from soils heavy in consistency and rich in humus. Attempts have been made to place in the soil clayey minerals of the montmorillonite and clinoptilolite types, which are characterized by a high decomposition capacity and the property of fixing Cesium-137, making it unaccessible for assimilation by a plant. In some places this method has yielded good results but for a final assessment of its effectiveness we need long-term testing. It is important to limit the accumulation of Cesium-137 in animals as well. This is why potassium ferrocyanide and lithium salts are used in the diet—to create compounds with Cesium-137 and remove it from the body.

[SELSKAYA ZHIZN] Thus, we can say that today the health of the people depends to a large extent on agronomists and zootechnologists, because the total radiation dose consists of two components—external (radiation of radionuclides that have settled on the soil, housing and so on) and internal—radiation of radionuclides from food products accumulating within man's body. Is this correct?

[Aleksakhin] Yes, the radiation dose today is determined primarily by the component of internal radiation exposure (this equals a total dose that is higher by a factor of 2-5 than the dose of external radiation). This is why a decrease in the entire radiation exposure dose depends on how much it will be possible to decrease the internal dose, i.e. to produce products clean of radioactivity.

After the accident at the nuclear power station very extensive work was done to reclaim contaminated land and in the areas of partial decontamination (on private plots) and chemicalization. A firm system of radiological control of the quality of all products produced has been created and is operating in close contact with the institutions of the USSR Ministry of Health and the State Committee on Hydrometeorology.

[SELSKAYA ZHIZN] But evidently radioactive contamination as a result of the accident at the Chernobyl Nuclear Power Plant requires not only temporary extreme measures but also a long-term program for carrying out agricultural reclamation measures?

[Aleksakhin] Of course! First and foremost we must develop highly productive artificial meadows, increase soil fertility, and organize the proper feeding of animals. The experience of eliminating the consequences of the accident at the Chernobyl AES has convincingly shown that in places where the recommendations of scientists are utilized correctly agricultural products that are suitable for consumption are consistently produced.

#### Peasants' Union Board Member Discusses Private Farming in Estonia

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6 May 89 p 2

[Interview with Yulo Ereld, secretary, Estonian Kolkhoz Council and board member, Central Peasants' Union, by L. Levitskiy: "The Kolkhoz, the Leaseholder, and the Farmsteader"]

[Text] As we have already reported, the Estonian Central Peasants' Union—that is the term which this republic's farmsteaders have selected to name their association—at their constituent congress handed over to Ya. Ekhamyaev and Yu. Ebakhu from the Paydeskiy Rayon, and to Yu. Yurka from Virumaa state documents attesting to the transfer of lands to them for their permanent use. Officially they were designated as the first farmsteaders, even though here are already more than a hundred independent peasant farms in this republic.

What kind of role is seen for the farmstead? Is not this a zigzag in agricultural policy?

These and other questions are answered in an interview with IZVESTIYA's correspondent by Yulo Ereld, secretary, Estonian Kolkhoz Council, and board member, Central Peasants' Union.

[Yu. Ereld] Let me remind you that in March of last year this republic's Council of Ministers and CP Central Committee adopted a decree entitled "On Individual Labor Activity in Agriculture." And this was the beginning of the rebirth of the Estonian farmstead. It has not proceeded with ease. The Plenum of the CPSU Central Committee, which was held in March, provided clear answers to many questions put by disturbed peasants. Now they have obtained the right to make the following choice: either to remain as leaseholders within a kolkhoz or sovkhoz, or to become an independent master.

But we understand that the "newly born" farmsteader is not comfortable within a system of a de facto monopoly by public production. In order to support him, a few days ago the Council of Ministers adopted a decree entitled "On High-Priority Measures for Developing Peasant Farms in the Estonian SSR." In my opinion, this document has taken into account both the complex provisions of a future All-Union law on leaseholding as well as the specifics of our republic.

[L. Levitskiy] How is public opinion receiving the leasing contract within the framework of kolkhozes and sovkhozes?

[Yu. Ereld] In our own republic we have become convinced that such contracts are not the way of the future. By his own nature and character, the Estonian peasant yearns for independence and freedom. For us the farmstead is both a production unit and a cell of society, the foundation of a life style. In our republic these farmsteads are small, unmapped plots. Heavy-duty equipment is not suitable for nor is it used on them, but the large farms do not have enough working hands. And so it has turned out that there is too little arable land, but fields of spruce trees are, nevertheless, cared for. In short, the land has become tired of waiting for devotion and permanent care. Against this background, leaseholders are perceived, you must agree, as temporary favorites.

It was correctly stated at the Plenum of the CPSU Central Committee: let the peasant decide how to operate and on what principles. It is important now that the rehabilitation of the farmstead provide a unique kind of psychological tranquility. Many peasants already regard leasing as a transitional from from large-scale, collective farming to the family type of farming. Therefore, the agreements being concluded provide for the predominant right of the leaseholder to take the land for permanent use. Leaseholders may also join the Central Peasants' Union.

[L. Levitskiy] Insofar as I understand it, the decree passed by the Estonian SSR Council of Ministers confirms the transfer to the peasant of land, forests, and bodies of water for use in perpetuity.

[Yu. Ereld] That's not quite the way it is. In Estonian this is construed somewhat differently: in translating this document, we are searching for a more precise term. But

the gist of it is that the state guarantees the following to the peasant: he, his children, and his grandchildren will use the land allotted to them always, unless, of course, they themselves abandon it. The justice and finance ministries have already been assigned the task of working out, in conjunction with the Central Peasants' Union, the right and conditions for farmsteads to be inherited. We are thoroughly studying the Finnish experience in this regard. There, for example, a farm passes in toto to one of the heirs—breaking it up is prohibited. And this particular heir pays out compensation to the other heirs—moreover, a substantial compensation. And this is understandable. Let say, for example, under our conditions, the value of a farmstead amounts to something like 150,000 rubles. That's why we need a good, tried-and-tested mechanism for inheritance.

[L. Levitskiy] We've gotten off the track a bit. We've started to talk about inheritance right away. Let's discuss the creation of the farmsteads first. Does the new decree provide for a "solid, complete farmsteadization"? People are beginning to say that one fine morning kolkhoz members will wake up and discover that they've already become farmsteaders.

[Yu. Ereld] Such talk is groundless. We have some excellent, highly efficient kolkhozes, sovkhozes, and agro-businesses. To break them up into smaller units or to liquidate them would be counter-productive. A great diversity in the formal conditions of farming also predetermines a multiplicity of forms with regard to property ownership and production organization. Herein lies the pledge of success.

Speaking personally, I believe in the potential possibilities of farmsteads. At present there are about 150 of them in this republic. To be sure, the state act granting possession of the lands is not yet in the hands of many peasants: under our bureaucratic system it takes at least six months to draw up a document. By the end of the year the number of functioning farmsteads will have doubled; within 10 years, I think, they will produce a minimum of one-third of all the meat in this republic—this amounts to 70,000-80,000 tons annually.

[L. Levitskiy] But, I suppose, the deciding "word" will still remain to be spoken by public production.

[Yu. Ereld] It has many advantages. Mechanization of labor, setting of norms for the work day, days off, leave.... On the good farms—high wages, a well-arranged everyday life and leisure. Not everyone will give all this up and take upon himself the heavy burden of responsibility. And for 40 years since the war we have been re-forging the peasant-master into the peasant-hired worker. He is already simply afraid of the need to do everything on his own. But this is not the chief difficulty

The chief difficulty is that there is no possible way to set up thousands of farmsteads within a few years. Let me repeat: a good farm requires as much as 150,000 rubles in investment.

[L. Levitskiy] But the individual farmsteader would not have to draw on his own money for everything, would he?

[Yu. Ereld] Of course not. The decree provides that roads, electrification, and land reclamation will be at state expense.

[L. Levitskiy] Even land reclamation?

[Yu. Ereld] The state pays kolkhozes and sovkhozes for expenses incurred in land improvement. A farmstead also has the same rights, since the land here is likewise state property. If its quality improves, its rent payment also will become higher.

[L. Levitskiy] That's fine. But just where is a peasant to get the other 100,000 rubles—for a house, other structures, and equipment?

[Yu. Ereld] At the bank, in the form of credit. The amounts of the credits have now been increased. A republic-level farmstead fund has been set up, and its assets will go partially toward extending additional credit. Rayispolkoms have been permitted to finance peasants from the local budget. The republic will probably be able to amortize a portion of the credits by means of budget assets.

[L. Levitskiy] But, as certain participants in the farmsteaders' congress said, the interest rates for the loans are ruinous.

[Yu. Ereld] A thoughtful master would not say that. Credit is advantageous not only because it allows a person to start production quickly. It is also advantageous in and by itself. The bank charges 4 percent interest per annum, but the rate of inflation, according to official data, is much higher. It is clear, then, that whatever one buys today will be cheaper than it would be tomorrow.... It is not by chance that in all countries people are glad to have recourse to credits.

[L. Levitskiy] What is the optimal size of a farmstead? How much land, for example, is to be given to a farmsteader?

[Yu. Ereld] The decree does not set any limits. We still have a great deal of unused or poorly used land. But there are not yet any reliable criteria here. Our neighbors, the Latvians, consider that it should be at least 20 hectares. The apportionments of farmsteads in Bourgeois Estonia varied from 5 to 100 hectares. The Finns and Swedes assert the following: a strong farmstead requires 150-200 hectares of usable land—forests, pastures, and arable land.... By the way, the Swedish and

Finnish peasant organizations each have committed themselves to construct a model farmstead in Estonia and to outfit them with up-to-date equipment.

[L. Levitskiy] But just who is going to give so much land to the farmsteader? Because, of course, it was divided up a long time ago among enterprises and sectors. Is a kolkhoz chairman or a sovkhоз director expected to go against himself? And for leskhоз [forestry farm] directors to whom abandoned farmlands have been transferred it would be better to plant spruce trees....

[Yu. Ereld] It's a serious question. We have approached the necessity for "redistributing" ["redistributing"] the land: everything which is not being used must be immediately transferred to the local Soviets. I am convinced of the following: the Soviets, in general, should dispose of all usable lands in the name of the state—to turn them over for ownership and use to leaseholders—kolkhozes and sovkhozes, cooperatives, and families. Let him farm who knows how to be a genuine master. And so far we have found the following solution. When turning over the land, a triple [three-step] agreement is concluded: a sovkhоз, for example, turns over a section to be worked to a peasant, and the rayispolkom makes an appropriate reduction in the sovkhоз's plan for its products sales or state requisition. In turn, the farmsteader obligates himself to deliver a portion of his own products to the state. There will be no harm or disadvantage.

[L. Levitskiy] Will the output from the farmstead be included in the sovkhоз's plan?

[Yu. Ereld] Not necessarily. The peasant himself will decide to whom he will sell his products—to a cooperative, to processing enterprises, or to the sovkhоз. And he will proceed on the basis of his own criteria.

[L. Levitskiy] But at what prices?

[Yu. Ereld] At the usual, ordinary purchase prices which are set for public production. With all the markups or surcharges appropriate. With the exception, of course, of the notorious surcharge "for exceeding last year's level." However, during the discussion of our draft decree in the USSR Gosagroprom [State Agro-industrial Committee], the following amendment was proposed: when a long-term (5-10 year) agreement is concluded with a farmsteader for selling products to the state, the prices are to be increased by 10 percent. Provided, of course, that the agreement is carried out.

[L. Levitskiy] That is, the farmsteader himself decides how to dispose of his products?

[Yu. Ereld] Not completely. There is one condition: he must primarily work to supply the domestic market. The republic helps the farmsteader to stand on his own two feet, for the first five years it levies no income tax on him, and so, consequently, we have a right to expect some loyalty in return. Of course, there are exceptions.

When engaging in direct agreements with plants for the delivery of equipment or fertilizers, a peasant may take his own products into account, and in working to supply a foreign market he has the right to obtain its currency.

And as to social security, an appropriate decision is being prepared. A farmsteader will contribute a certain percentage to the social security fund, just as is done by the state enterprises. And, naturally, he will acquire an equal right with the sovkhoz worker to a pension and other privileges. The only difference is whether he becomes a shareholder in this fund or not; that is up to each person to decide for himself.

[L. Levitskiy] Is not too rosy a picture being created? Everything has been provided for the farmstead to flourish....

[Yu. Ereld] Universal flourishing is a fairy tale. The economy is harsh and severe. If we truly intend to live by its laws, then we must make provisions for all possible contingencies, including bankruptcy.

[L. Levitskiy] With the present-day food shortage and the lack of competition, it is probably premature to be worried about bankruptcy. Furthermore, the measures which you have told us about guarantee farmsteaders a most favorable status.

[Yu. Ereld] Don't exaggerate the importance of the decree. It is only a starting impetus. Subsequently, the farmsteaders' rights will have to be reinforced by constitutional norms and legislative acts. There is still no comprehensive law, and we must, obviously, work out a more "individual" law concerning the Estonian peasant farm. It will have to combine opposing principles—state ownership of the land and private farming, for, in its essence, the peasant farm is precisely that. The unified concept of "private property is used throughout the world. But we have ideologized it by calling it "personal." In my opinion, all this "terminological creativity" is an empty, vacuous exercise. It would be useful to create a financial mechanism, which would, by retaining private property within the limits mandated by the state's interests, not allow it to grow into an instrument of profit and exploitation. For this purpose, it is sufficient if the society has the following possibilities: a pricing policy, investments, and taxes.... All the more so in that the state remains the property owner. We will succeed in the matter of creating favorable conditions for all forms of property ownership and production—then there will be nothing to worry about concerning the fate of kolkhozes, sovkhozes, and farmsteads: any efficient farm, whether large or small, will defend itself.

## AGROTECHNOLOGY

### VASKHNI Academician Discusses Ecological Problems in Agriculture

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[Article by N.Z. Milashchenko, 1st Vice President and Academician at VASKhNIL and director of the All-Union Scientific-Research Institute of Fertilizers and the Agricultural Soil Science: "Solving Ecological Problems in Farming"]

[Text] In many instances, the recommended zonal farming systems are not ensuring the efficient use of local soil-climatic resources, the effective use of the means for production intensification, the expanded reproduction of soil fertility or ecological balance in the environment.

At the present time, improvements are needed in our country in 79.2 percent of the arable land area, 77.4 percent of the natural haying land and 90 percent of the pastures. During the 1975-1985 period, the area of saline agricultural land increased by 95.1 percent, water-logged land by 24.2, swampy areas by 15.3, rocky land by 66.3 and land destroyed by water erosion by 12.1 percent. The area of acid arable soil decreased by only 19.5 percent and land destroyed by wind erosion by 20.1 percent. These figures underscore the problems in investment policies and also the dangerous ecological trends in farming. Thus a need exists for carrying out thorough basic studies and for developing new and more improved zonal ecologically balanced systems for intensive farming, which will be based upon optimum models for controlling soil fertility and the productivity of agro-ecological systems and which will ensure considerable growth in the production of high quality field crop husbandry products and the expanded reproduction of soil fertility.

This includes the solving of the following large-scale scientific-production tasks:

- efficient use of local natural-economic resources based upon the principles of soil-protective (nature-conservation landscape) farming;
- a study of the processes for the transformation of fertilizers and other chemical agents in the soil, the mobilization and immobilization of nutritional elements and a quantitative and qualitative evaluation of the trends in these processes for forecasting the effectiveness of fertilizers, in the interest of optimizing the nourishment of plants under various conditions;
- an expansion in the assortment of fertilizers and an improvement in the technologies for applying them in combination with soil improvement agents, pesticides and other chemical means;

- the creation of new forms of microbiological preparations which will ensure maximum use of biological nitrogen in farming;
- the organization of zonal soil-ecological monitoring on a bio-engineering basis and in a geographical network of extended experiments on the all-round use of fertilizers, pesticides and other chemical agents;
- the development and use of new technical means and technologies for remote soil control;
- the development and use of modern systems for operational forecasting of the level of soil fertility and the productivity of agro-ecological systems and the ecological situation, with use being made of electronic equipment;
- the creation and use of complexes of modular-unit automated highly adapted agricultural machines and implements for soil-protective resource-conserving intensive technologies;
- the development and use of more improved highly mechanized ecologically safe production technologies for farming products and with a high economic effectiveness. In the creation of such technologies, a need will exist for studying the physiological and biochemical mechanisms for the assimilation of nutritional elements during various stages in the organogenesis of plants, under conditions involving the all-round use of chemical processes, the establishment of physiological-biochemical regularities in the formation of the quality of products and development of the means and methods for regulating synthesis and the accumulation of the more important nutritional products—protein, carbohydrates and fats. Great importance is being attached to studies concerned with the development of high speed methods for forecasting plant nutrition, controlling the quality of a crop and early detection of diseases in plants.

Ecological balance in the intensive farming systems, and particularly in the production technologies, is the most important condition with regard to their acceptance for production.

The scientific lag in solving the problems of ecological safety in intensive farming has raised the idea of so-called alternative (organic, biological) farming in a number of developed countries throughout the world. The principal essence of these ideas lies in a rejection or sharp limitation upon the use in farming of chemical agents and intensive tilling of the soil.

The advocates of the concept of alternative farming, in defense of their own ideas, have advanced the following arguments:

- an increase in the volumes of use of chemical agents for protecting plants and also readily soluble mineral fertilizers leads to contamination of the products and the environment and this poses danger to human health;
- intensive tilling of the soil leads to a reduction in the amount of organic substance in the soil, to a deterioration in the physical properties, to erosion and, as a result, to a drop in fertility;
- in connection with growth in the cost of energy and the large expenditures of it for the production of chemical agents, their use on an extensive scale leads to the wasteful use of irreplaceable sources of energy;
- failure to value properly the complete utilization of organic waste products in agriculture leads to tremendous losses in the energy accumulated in them and also in plant nutrients.

These arguments are rather convincing and one cannot fail to agree with them.

Alternative farming presupposes the use of the advantages offered by crop rotation plans, plant residues, farmyard manure, pulse crops, green manure crops, various organic waste products of agricultural origin, minimal mechanical tilling of the soil and agrotechnical and biological methods for protecting plants against diseases, pests and weeds. All of this constitutes the basis for employing an ecological approach in farming management which, unfortunately, is not always taken into account by those who advocated the traditional method of intensive farming.

At the same time, an analysis of foreign data on the effectiveness of various alternative farming systems reveals, for example, that a positive balance in organic substance in the soil is possible only if use is made of additional (foreign) sources of it—organic fertilizers. A self-supporting balance for phosphorus and potassium, in the absence of mineral fertilizer applications, is impossible in many instances. And an important consideration is the fact that the cropping power level in alternative farming as a rule is considerably lower than traditional intensive farming. Thus, in an experiment conducted by the Bavarian Land Department for Soil Science and Field Crop Husbandry (FRG) involving the use of a five-field crop rotation plan—sugar beets, barley, potatoes, wheat and oats—the following results were obtained for the average annual productivity of a hectare of arable land in grain units: with minimal use being made of chemical agents—3,230 and for maximum use—7,280. In the first variant, mineral fertilizer and lime materials were not employed whatsoever and pesticides—only to a minimal degree; twice during a crop rotation, use was made of intermediate crops for green fertilizer and farmyard manure was applied annual at the rate of 12 tons per hectare. In the second variant, mineral fertilizer ( $N_{218}P_{200}K_{303}$ ), farmyard manure was not applied, organic substance was added to the soil in

the form of beet tops, potatoes and grain straw, post-harvest green manure crop was used three times during a crop rotation and extensive use was made of pesticides.

At the same time, we cannot consider as having been proven the fact that products grown by means of alternative farming are more nutritious and safe for health in all instances. Thus a committee of experts in Switzerland, using various scientific methods, was unable to find any difference in quality between "biological" and "conventional" vegetables. In the FRG, an association of consumers also drew the conclusion that the products of biological farming are no better than the remaining methods. In Austria, food product research personnel also question the advantages of "biological" products (it has not been accurately proven that those who consume them are more healthy or live longer).

Of all the nations in the world, the greatest use of chemical processes for the production of a unit of agricultural product takes place in Japan, where the average duration of life for the population is increasing and has achieved the highest level found in the world today. Certainly, it is still premature to draw the final conclusions regarding this critical and complicated question, since new and more extensive and thorough studies have yet to be carried out.

Obviously, improvements in the modern zonal farming systems and intensive technologies for the cultivation of agricultural crops must proceed along the path concerned with making maximum use of the principles of biological farming.

At the same time, the safe and highly effective use of chemical agents on an extensive scale requires that solutions be found for a number of ecological problems worth mentioning at this time.

The intensification of agricultural production is increasing sharply the danger of water and wind erosion of soil. At the present time, the annual losses in nutrients from the soil and fertilizers as a result of erosion are already numbered in the millions of tons. A huge portion of these losses is moving from areas of fine earth into water areas and contaminating the water. The same holds true for pesticides and other chemical agents being applied to fields. These losses and environmental contamination can be avoided mainly through the introduction of soil-protective, contour-landscape farming. The plans call for such farming systems to be mastered on an area of not less than 46 million hectares by the year 2000.

With an increase taking place in the use of chemical means, a greater role will be played by intra-soil and drainage waters in the movement of chemicals and thus there will be a greater danger of the environment being contaminated by them. Thus a promising trend for scientific studies in agricultural ecology includes: a study of the migration of biogenic chemical substances by soil profiles and in subsoil layers, a study of those factors

which affect the intensity of these processes and the development of methods for controlling them at a safe level. A definite amount of experimental material testifying to the existence of a number of unfavorable ecological trends has been accumulated on certain aspects of this problem. For example, it has been established that the use of excessively high dosages of mineral and organic fertilizers is sharply increasing the washing out of the soil of nitrogen, calcium, magnesium, potassium and sulphur. Studies carried out at the Smolensk Branch of VIUA [All Union Scientific Research Institute of Fertilizers and Soil Science] have shown that a substantial accumulation of mineral nitrogen in the soil and also nitrogen losses from the root layer are observed only when the nitrogen applications are at the level of 90-120 kilograms per hectare or higher. Of the overall losses of nitrogen fertilizer caused by washing out from the root layer during a crop rotation, winter wheat accounted for from 45 to 60 percent. In the case of barley, the movement of nitrogen was 1.3-3 times lower and for perennial grasses the nitrogen losses did not exceed 10 percent.

Considerable accumulations in deep soil layers and an intensive movement of nitrates in ground waters were observed in those areas where the nitrogen dosages exceeded the ability of the plants to assimilate it, or when the periods for applying the fertilizer did not coincide with the period for their active use by the crop. The content of nitrates and other nitrogen containing toxicants in water areas is influenced by natural factors (climate, hydrology, soil) and even more by anthropogenic factors. An increase in the contamination of ground waters and water areas by nitrates has been noted in all areas in recent years.

The ecologically safe use of nitrogen fertilizers ensures the elimination of this dangerous process

In achieving a balance in the ecological systems, special importance is attached to calculating and regulating the movement not only of nitrogen but also other biogenic elements, especially calcium and magnesium. For example, it has been established that the use of ammonium sulphate increases the losses of calcium and sulphur from the soil by a factor of 2-3 compared to other forms of nitrogen fertilizers.

Lysimetric studies carried out over a period of many years have shown that a close interrelationship exists between the effectiveness of fertilizers and agricultural crop harvests on the one hand and the washing out of nutritional elements from the soil on the other. Science has developed many methods for achieving a sharp reduction in the washing out of fertilizers from the soil: cultivation of post-harvest crops, the use of non-chloride potassium fertilizers, split applications of nitrogen and the sowing of perennial grasses. At the same time, the migration processes in the soil for various nutrients and the effect upon them of anthropogenic factors are deserving of considerably greater scientific attention, especially that taking place on irrigated and drained lands and in

zones characterized by a natural washing out moisture regime. Special importance is being attached to accelerating the development and use of long-acting forms of nitrogen-containing fertilizers which limit sharply the migration of nitrogen compounds and environmental contamination by them. Large-scale animal husbandry complexes where surplus volumes of liquid organic fertilizers accumulate present a high level of danger insofar as environmental contamination is concerned. In the absence of effective systems for utilizing farmyard manure run-off, first of all, huge losses in organic fertilizer are tolerated and, secondly, the environment becomes contaminated. On the whole, we have transformed the Bavarian attitude towards organic fertilizers from a purely agronomic problem into an economic and ecological problem.

In the non-chernozem zone alone, more than 60 percent of the organic fertilizer, or in excess of 100 million tons, is not being used in agriculture. This is resulting in a shortfall in the crops and in contamination of water areas and the air.

Meanwhile, science has many effective developments for production technologies and for applying various types of organic fertilizers and yet production is seriously lagging behind in mastering them. As a rule, the work suffers from shortcomings and imperfections in the technical means available for preparing and applying organic materials and also from unsuccessful technical solutions for the removal of farmyard manure at animal husbandry facilities.

The ecologization of agriculture requires the organization of strict operational control over the status of natural objects. In this regard, science must develop a number of ecological norms for agricultural activity. This work is already being carried out in countries of the YeES [European Economic Community]. Here the maximum permissible dosages for nitrogen fertilizer applications have been established by crops and types of soil and limitations have also been introduced for livestock density. The problem concerned with the contamination of soil and farming products by toxicants contained in fertilizer and pesticides is arousing concern. Here we have in mind fluorine, heavy metals and micro-elements. This applies in particular to phosphates. Thus the average lead content in phosphates is 30, in superphosphates—34 and in complex fertilizers—57 milligrams per kilogram.

According to data supplied by a toxicology laboratory of TsINAO [Central Institute of Agrochemical Services for Agriculture], 3,200 tons of cadmium, 16,630 tons of lead and 553 tons of mercury may be applied to the soil together with phosphorus fertilizers throughout the USSR on the whole by the year 1990. Phosphorus fertilizers are also a source for increasing the content in the soil of fluorine, stable strontium and the natural

radioactive compounds of uranium, radium and thorium. Unfortunately, the biological aspects of this problem in the agro-ecological systems have still not been worked out.

The use of micro-fertilizers must also be worked out taking into account the need for protecting the environment. The excessive use of micro-fertilizers can lead to a surplus (harmful) accumulation of them in agricultural products and in the soil.

The extensive use of pesticides and retardants based upon these highly biologically active chemical preparations has been recommended in the intensive technologies for the cultivation of agricultural crops. Their effect upon an increase in the cropping power of crops is very high. However, the danger of their contaminating food products and causing harm to the environment is great. Thus special importance is attached to learning how to employ pesticides and retardants in a correct and scientifically sound manner together with other means and methods. Science must provide clear recommendations on a permissible chemical workload in the intensive technologies for the various crops and zones.

This requires the rapid organization, in the required volume, of studies dealing with an ecological evaluation of the possible systems for the all-round use of chemical processes, in the interest of developing the necessary zonal norms. Such studies involving the use of modern methods for determining the content of toxicants in plants and soil and including the use of biological tests for evaluating the overall toxicity have already been started at VIUA.

For production purposes, a strong need exists for sound recommendations on the possibilities and conditions for using various types of chemical preparations in tank mixtures for all-round one-time treatments of crops.

Great opportunities for reducing the chemical workload in intensive technologies are becoming available through the development and use of automated systems for controlling the formation of a crop, systems which ensure the selection of optimum variants for the use of fertilizers and chemical and biological agents for protecting plants while taking into account the weather and other conditions.

The contamination of products by nitrates and nitrites is arousing special concern and alarm within society. This applies mainly to potatoes and vegetables. The specialists are aware that this is not caused merely by the use of nitrogen fertilizers. An excess of nitrates in food products is mainly the result of crude violations of the agricultural requirements for the use of nitrogen fertilizers and this is associated either with agronomic ignorance on the part of the farmers or with their lack of responsibility. The zonal recommendations for ecologically safe use of nitrogen fertilizers that have been developed must be observed in a strict manner in all

areas and thorough control must be exercised over the farming products sold to ensure that their nitrate content conforms to the permissible norms established by USSR Minzdrav [Ministry of Health]. Special importance is attached to the role played in this work by the toxicological laboratories of planning-research stations for the use of chemical processes and sanitary-epidemiological stations.

The agrochemical service and USSR Minzdrav have developed and are using various methods for determining the presence of nitrates in water, feed and plants and appropriate instructions and instruments are available in this regard.

At the same time, the problem of nitrates and other toxicants requires further study in the interest of solving it completely. Here we have in mind the implementation of an all-round program of scientific studies and the carrying out of a unified system of agro-ecological monitoring of toxicants within the soil - water - plant - animal - man system. The methods and instruments for controlling nitrates and other toxicants must be standardized in conformity with this program.

Exceptional importance is also attached to other factors in solving the problem of nitrates and other toxicants.

A specific master of the land and products grown is still often lacking at kolkhozes and sovkhozes and there is no economic mechanism for controlling the quality of the crops. A mutual lack of responsibility results in crude violations of the technologies. Under such conditions, follow-up control is not very effective.

The new economic mechanism at kolkhozes and sovkhozes and the introduction of lease type relationships must create favorable conditions for controlling output quality during the production stage.

Ecologically safe technologies for the use of chemicals are imposing high requirements with regard to the technical equipment used for ensuring accuracy in the established dosages and in uniform applications. Our industry is still producing equipment which is not meeting these

requirements. The machine builders must raise sharply the quality of the machines being used for employing chemical processes in farming.

It is possible at the present time to improve the ecological situation in farming considerably through a more extensive and intelligent use in production of the available scientific developments and recommendations, such as the periodic liming of acid soils, ensuring balanced mineral nutrition during all stages in the growth and development of plants and others. Great opportunities are becoming available in this regard in connection with the prospects for utilizing biological nitrogen through the creation of new micro-biological preparations (for example, rhizobium bacteria).

An important trend in studies being carried out is that of selecting pulse plants with a raised photosynthetic capability, since this strengthens nitrogen fixation. Studies on nitrogen fixation using grass family plants appear to be very promising. The results obtained are used in the production of experimental batches of inoculants which stimulate the nitrogen-fixation of the grasses.

Thus, for the foreseeable future, fertilizers and other means employed for the use of chemical processes in optimum combinations with other agrotechnical and biological means and methods continue to serve as the foundation for raising the fertility of soils, increasing the cropping power of agricultural crops and regulating the quality of farming output.

At the same time, a need exists for thoroughly developing the ecological principles for employing chemical processes in intensive farming and ensuring their realization in production. Great opportunities are available here primarily within the framework established for carrying out the state program of studies—"Highly Effective Processes for the Production of Food Goods" directed towards: improving soil fertility and the intensive technologies for producing grain and other field crop husbandry products.

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## POLICY, ORGANIZATION

### Methodology for Formation of Economic Stimulation Funds Proposed

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[Article by V. S. Karelkin, candidate of economic sciences. Moscow Cooperative Institute: "Standard for Forming Economic Stimulation Funds"]

[Text] In 1988 cement industry enterprises worked under economic accountability and self-financing, so the extent to which the established standards for economic stimulation funds (FES's) were directed toward increasing production efficiency must be analyzed.

During 1988-1990 Glavtsement [Main Administration for the Cement Industry] enterprises will deduct an average of 25.3 kopecks from each ruble of profit for their own needs.

The profit that remains at the disposal of the plants is distributed among the material incentive fund (FMP), the social development fund (FSR), and the fund for the development of production, science and technology (FRPNT). A financial reserve can also be established at enterprises, but its forming was not called for by the enterprises' financial plans for 1988, so it can be formed only by obtaining above-plan profit.

The amount of FMP of Glavtsement enterprises corresponds approximately to its average level throughout USSR Minstroymaterialov [Ministry of Construction Materials Industry] and makes up 11 percent of the total wage fund, although it is estimated to be half as much per ruble of profit as the branch average.

The amount of FSR for Glavtsement per ruble of the wage fund and the estimate of it per worker are twice as much as the average for USSR Minstroymaterialov, while the level of FRPNT relative to the cost of productive capital is much lower for Glavtsement enterprises than for any other subunits of the branch.

The source for forming the first two funds is profit alone, while for the third there are also amortization deductions for full restoration and earnings from the sale of unneeded property.

**The Material Incentive Fund.** Under the new terms it will become the sole source for awarding bonuses above the wage fund. The former FMP of the enterprises makes up about 90 percent, in substance, of the whole FMP. The difference in extra charges for FMP's for cement plants that work well and those that work poorly made up 10-12 percent of the wage fund.

A deficiency in forming the funds under the new management terms, as has been noted in the economic literature, has been its tendency to increase, since the

amounts of the funds that were in the five-year plan calculations for 1988-1990 and have been increased by the total of the bonus-awarding funds, the source for the forming of which are profit and reduction in prime production costs, have been adopted as the basis for calculating the standards for deductions from profit into the FMP.

Therefore, plants that have the greatest production reserves and, consequently, higher increases in profit will have higher FES's and higher growth thereof, not those which have a higher level of production effectiveness (high labor productivity, high yield on capital, and low intensiveness in the use of materials, fuel and power for cement production). Nevertheless, the size of the FES's for enterprises that have had the highest level of production-resources utilization will be higher than the branch average since the growth of profit and the FES occasioned by this level in preceding years has become the basis for forming these funds during the 12th Five-Year Plan. For example, enterprises that have a higher level of production-resources utilization in the branch have also a planned level of FMP higher than the branch average: the Sebryakovo plant 14.8 percent, Novotroitsk 17 percent, the Belgorod plant 18.3 percent, the Ulyanovsk 13.9 percent, the Korkino 14.8 percent, and the Krasnoyarsk plant 11.3 percent of the total wage fund. Meanwhile, the following enterprises had the highest FMP level under the plan for 1988 (relative to the wage): the Bezmein plant 20.8 percent, the Belgorod 18.3 percent, the Novotroitsk and the Karachayev-Cherkessk 17 percent, the Topki 16.5 percent and the Lipetsk 16 percent. Consequently, of the six best cement plants, only two (the Belgorod and the Novotroitsk) were among the six enterprises that had the best FMP level.

Doctor of Economic Sciences V. P. Moskalenko proposed back in 1982 to give enterprises material incentives not for growth in profit or commodity output but for the degree of arduousness of the plan tasks, which he proposed to compute as the ratio of the achieved indicators to the so-called "standards of potential possibilities." In this case the standards of potential possibilities are determined by the degree of use of the potential possibilities, the prime production costs, materials intensiveness, labor productivity, and so on [1 and 6].

This article attempts to develop a specific mechanism for making the amount of profit that remains at the disposal of enterprises (and, consequently, also the FES) depend upon the degree of utilization of production resources. For this purpose all cement plants are being divided into groups that include enterprises with approximately equal management conditions; the position of each of them within the group is determined by the level of efficiency in cement production [2].

Then we distribute the total of the FMP for a group of enterprises, which is computed in accordance with their individual standards for deductions from their computed profit for 1988, among the plants in such a way

that the group average standard for deductions into the FMP (in percents of the total wage fund) will correspond approximately to the level of deductions made into the FMP by enterprises that have an average level of production effectiveness and occupy the middle position in the group. Then the plants which are in first place in level of production efficiency will have, correspondingly, the maximal level of FMP, and the others, which are in

the last places for this indicator, will have the minimal amount of FMP. An example of a calculation of the FMP for the second group (enterprises of the European part of the RSFSR with an output of 1.5 million tons or higher of standard cement equivalent in kind for the year) is shown in the table. All the largest plants of the European part of the RSFSR, which are producing 37 million tons of cement, or 28.5 percent of USSR Minstroymaterialov's cement, are concentrated in this group.

[Table]

Cement enterprise	Enterprise production-effectiveness ranking in the group	FMP [Material incentive fund]			Under proposed standards			FMP's deviation under proposed standards
		Total, thousands of rubles	Percent of wage fund	Percent of profit	Total, thousands of rubles	Percent of wage fund	Percent of profit	
Bryansk Cement PO [Production Association]	12	712	12.2	21.1	583.6	10.0	14.8	-128.4
Voskresensksement PO	7	679	11.7	20.8	458.2	13.0	11.1	+79.2
Mikhaylovtsement PO	9	547	14.1	22.7	445.3	11.5	14.9	-101.7
Stary Oskol plant	8	590	15.6	16.8	451.7	12.0	7.3	-138.3
Belgorod plant	2-3	418	18.3	20.8	365.1	16.0	8.3	-52.9
Novorostsement combine	4-5	978	12.5	21.4	1,088.2	14.0	13.9	+110.2
Sebryakovo plant	1	674	14.8	27.9	830.1	18.3	14.9	+156.1
Karachayev-Cherkessk plant	11	554	17.0	19.3	340.9	10.5	10.1	-213.1
Zhigulevsk combine	4-5	644	11.7	27.9	766.0	14.0	16.0	+122.0
Volsksement PO	6	918	12.0	22.7	1,081.3	13.5	15.4	+163.3
Ulyanovsk plant	2-3	380	13.9	17.4	436.3	16.0	10.5	+56.3
Mordovtsement PO	10	514	12.2	16.1	461.8	11.0	8.0	-52.2
<b>Total for the group</b>	—	<b>7,608</b>	<b>13.2</b>	<b>21.0</b>	<b>760.8</b>	<b>13.2</b>	<b>12.6</b>	—

The advantage of the proposed system for figuring standards is that the economic stimulation mechanism will act, through the distribution of the funds available within the branch, in the interests of those enterprises or associations which, on fulfilling the profit plan, have achieved the best utilization of their production possibilities and the greatest saving of resources. It is evident from the table's data that, of the 12 enterprises, the FMP should be raised for six in the group and reduced for six. Based on the achieved level of production efficiency during the base period, the highest increase in FMP should go to the Sebryakovo plant (by 3.5 points), the lowest to the Karachayev-Cherkessk plant (by 6.5 points).

According to the approved standards, the Belgorod (18.3 percent), the Karachayev-Cherkessk (17.0 percent) and the Stary Oskol (15.6 percent) plants have the highest FMP in percents of the wage fund. The Sebryakovo (18.3 percent), Belgorod and Ulyanovsk (16 percent each) plants have the maximum FMP, in accordance with the norms computed as a function of the level of production efficiency.

**The Social Development Fund.** The most substantial change in the transition to full economic accountability occurred within the system for financing the social sphere. The newly created social development fund for enterprises (FSR) is almost 9-fold more than the former fund for social and cultural measures and housing construction (FSKMZhS).

The enterprises have become completely responsible for the social development of working collectives. The overall provisioning of the cement industry with social development funds is high, but it varies greatly by enterprise. At many plants a proper social (nonproductive) infrastructure has been created. For example, while the degree of provisioning of nonproduction fixed capital averaged 10,000 rubles, this indicator was 15,800 per worker at the Sebryakovo plant, 17,100 at the Ulyanovsk plant, 17,900 rubles at the Bezmein plant, 18,100 rubles at the Nevyansk plant, and even 20,000 rubles at the Angara combine. At the same time there are enterprises whose workers are being provided extremely poorly with housing and children's institutions. These are the Lipetsk and Dneprodzerzhinsk plants, the Balakleya combine, and

the Rustav, Ararat and Razdan plants, where the amount of nonproduction fixed capital provided is one-half to one-third of the branch average.

As is known, the standards for deductions from profit into the FSR should be differentiated among enterprises as a function of the degree to which they are provided with housing, children's institutions and other social, cultural and domestic-amenities facilities. But for cement plants, on the contrary, the following trend is clearly traced: the higher the level of provisioning of enterprises with nonproduction funds, the higher the collective's FSR. And this is easily explained. For those plants that have built more housing have also obtained greater means for this construction. These means have gone into the base for calculating the standards for deductions into the FSR from profit. Because of this, an undesirable differentiation occurs in the level of provisioning of nonproduction fixed capital, and this gap is constantly increasing, which is the cause of constant personnel turnover at enterprises that are unfavorable from the standpoint of the social sphere. For example, the provisioning of nonproduction capital at the Slantsy plant is 76 percent of the branch's average level but 157 percent at the Karachayev-Cherkessk plant, that is, more than twice as high. But eventually even this gap will be increased, since the estimated 740.6 rubles of FSR per worker that goes to the Slantsy plant during 1988 also is less than half of what will go to the Karachayev-Cherkessk plant (1,500.8 rubles).

As is known, the starting conditions for forming the FSR should be equalized, or even higher standards for deductions from profit into the FSR should be approved for enterprises that provide workers with a relatively lesser amount of nonproduction fixed capital.

Two methods for computing the standard of deductions from profit into the FSR have been proposed: the first is based upon a consideration of the degree to which enterprises are provided with nonproductive fixed capital, and it proposes a redistribution of deductions into the FSR that favors plants that have not been provided with nonproduction capital.

The second variant for redistribution of FSR funds calls for a minimal revision of the approved standards for deductions into the fund, eliminating only the most extreme disproportions in creating FSR's that have arisen during development. Out of all the enterprises of the group being analyzed that have been provided inadequately with nonproduction capital, only two have an estimated amount of FSR per worker that is below the average for the branch: these are the Novorostsement (845 rubles) and Zhigulevsk (526 rubles) combines, these being enterprises with a comparatively high level of production resources utilization. In order to create FSR's here in accordance with the standards which are computed, based upon the group's average provisioning with nonproduction fixed capital per worker (939 rubles), it is required that the FSR be increased by

317,000 rubles for the Novorostsement combine and 979,000 rubles for the Zhigulevsk, that is, by 1,296,000 rubles in all. These funds can be obtained by redistributing the FSR's of enterprises that have a comparatively low level of production effectiveness and a higher level of estimated amount of FSR per worker for the group. These enterprises can include the Karachayev-Cherkessk plant (-637,000 rubles), the Mordovtsement PO [production association] (-576,000 rubles), and the Stary Oskol plant (-83,000 rubles), which are, respectively, in 11th, 10th and 9th place in cement-production effectiveness in the group. Under the second variant, the redistribution ratios touch on the interests of all five enterprises, but, in order to effect them, it is necessary first to analyze the degree of provisioning of plants with nonproductive capital and the FSR's planned level, which is computed in accordance with the approved standards per worker.

More voluminous for a specific purpose is the **Fund for Developing Production, Science and Technology (FRPNT)**. It incorporates resources of the former production-development fund (FRP) and the expenditures on capital investment for production facilities that previously had been financed under the plan for state centralized capital investment (except for new construction) and on expenditures for paying off USSR Stroybank's long-term credits, participation in the construction and upkeep of roads, scientific research and the introduction thereof into production, increase of the standard for in-house working capital, standardized design work, the training of personnel, the covering of plan losses, and a number of other things.

Such a grouping of enterprise expenditures, combined with unification of the sources of their financing, creates a broader opportunity for flexibility with funds and expands the rights of enterprises in using them. The process itself of planning is simplified. It previously involved detailed calculations for each item on the balance sheet of income and expenditures, which, as experience indicates, in no way raised its validity, since, in determining plan assignments at the branch-of-industry level, it was still just as impossible to consider all the multifarious factors and conditions in the lower element of management.

There is no need right now to master funds for fear of losing a basis for obtaining them in the future, since FRPNT funds are not subject to withdrawal or redistribution. On the contrary, their accumulation by associations and enterprises for taking effective measures during later plan periods is encouraged, so that bank institutions will pay interest on them, since FRPNT funds are accumulated in Promstroybank [Industrial Construction Bank] accounts and are constantly in circulation.

The **Production Development Fund (FRP)** arose at cement industry enterprises in 1966-1967, and it reached 42 million rubles for the cement industry as a whole, or 1.91 percent of the cost of fixed industrial-production capital, in the 1970's

Since 1973 the rights of enterprises to create and use the FRP have been infringed upon, and in 1978-1985 this source of financing for enterprise in-house capital investment did not exceed 0.65-0.70 percent of the cost of the fixed productive capital, that is, it was abridged 3-fold in comparison with the 1970's [4 and 5]. This reined in the enterprises' initiative in introducing new technology and their rebuilding and reequipping efforts.

The necessity for ensuring a high pace of restoration of production equipment (up to 5-6 percent of the fixed capital annually, including 10-12 percent of the equipment), as well as the augmentation of working capital through in-house sources, were set forth as economic social and political problems in 27th CPSU Congress decisions.

The share of profit out of the total 103.3 million rubles for Glavtsement enterprise funds was 19.25 million rubles, that is, less than 20 percent (according to the statute on forming the FRPNT, the share of profit should be not less than 20 percent of the total amount of this fund [5]). This stipulation was not met at the Belgorod, Ulyanovsk, Novotroitsk and Kuznetsk plants, the Yashkino combine, the Spasskotsement PO, and the Poronay and Vorkuta plants. As a rule, the higher the standard for deductions into the FRPNT through amortization expenditures, the lower the approved standard for deductions from profit. For example, the Podolsk, Ulyanovsk, Novotroitsk, Nizhny Tagil, Kuznetsk, Poronay and Yashkino plants have the approved standard for deductions into the FRPNT at the 100-percent amortization level for full restoration; the Belgorod plant is at the 90 percent level. All these enterprises (except for the Ulyanovsk and Belgorod plants) have high wear on fixed capital (more than 70 percent).

If, when designating the level of deductions from amortization into the FRPNT, the level is based on the criterion of the amount of wear on fixed productive capital, which is extremely desirable, then the Mikhaylovstsement PO and the Magnitogorsk and Timlyuyskiy plants, at which the fixed-capital wear coefficients were, respectively, 0.726, 0.752 and 0.751, should also have had a standard in the amount of 100 percent of the amortization, as well as the enumerated enterprises. However, standards at the 65-70 percent level of amortization for full restoration were approved for these enterprises. Consequently, the assignment of some level of standard or other for deductions from amortization into the FRPNT was not founded on consideration just of the wear coefficient, and they were subjective in nature.

Throughout Glavtsement enterprises, the approved standard for deductions from amortization into the FRPNT varies from 55 percent at the Sebryakovo to 100 percent at the enterprises named above (60 percent of the enterprises have a standard in the amount of 60-65 percent of the amortization deductions for full restoration); the standard for deductions from profit that is placed at the

disposal of the enterprises in the FRPNT varies by plant, from 10.8 percent for the Vorkuta to 25.7 for the Checheno-Ingush. It is apparent from the analysis that forming the FRPNT through profit was "residual" in nature. Enterprise profit that remained undistributed after forming the FMP and FSR was sent here. Profit sent to the FRPNT comprised about 4.7 percent of the balance-sheet profit for Glavtsement as a whole. This clearly was inadequate if it is considered that for Sumi's NPO [Science and Production Association] Khimmash imeni Frunze these deductions for the 12th Five-Year Plan were approved in the amount of 45 percent of the balance-sheet profit [6]. The share of profit sent to the FRPNT should, in our opinion, have been increased considerably.

As indicated by the operating experience of the enterprises that have converted to full economic accountability and self-financing, the share of amortization deductions for full restoration comprises 60-70 percent of the FRPNT, while the share of profit is 30-40 percent. Consequently, in order to develop standards for deductions from amortization and profit into the FRPNT, criteria should be developed for differentiating these basic sources of fund formation. A concrete mechanism for computing these standards on an objective basis that the planning organs of higher organizations could use still have not been developed in theory or practice. Based on an analysis of the engineering-economics factors that objectively influence the size of the enterprises' FRPNT, the author has proposed a methodology for computing standards for deductions, which is based upon the following premises.

In our opinion, the total of the FRPNT for the cement industry should be no less than 4.5 percent of the cost of the production capital (4.5 percent is the branch average of the norm for amortization for full restoration, which provides for the simple reproduction of fixed capital). Right now this or a somewhat larger amount of the fund is called for only for the Voskresensktsement PO, the Podgorenskiy, Ulyanovsk, Nevyansk, Nizhny Tagil, Timlyuyskiy and Poronay plants, and the Yashkino combine. But there are enterprises with an extremely low FRPNT: for the plants, this indicator was 2.9 percent for the Korkino, 3.1 percent for the Katav-Ivanovsk and Magnitogorsk, and 3.2 percent for the Slantsy plant and the Mikhaylovstsement PO, the wear of fixed productive capital at some of the listed enterprises with a small amount of FRPNT having exceeded 70 percent (at the Magnitogorsk plant and the Mikhaylovstsement PO).

Under self-financing, every allocation of centralized (branch and budget) funds for reequipping, rebuilding and new construction that involves the expansion of existing enterprises is being discontinued. Therefore, the standards for deductions into the FRPNT from profit and from amortization deductions should be such that this fund will provide for the conduct of measures for reequipping and rebuilding plants under the terms for recovering their costs.

Thus, the FRPNT for enterprises at which radical industrial rebuilding is being accomplished, with conversion from the wet to the dry method of production, should be approved in the maximum amount—7 percent of total production capital. Consequently, the branch average for FRPNT should be in the amount of 5.7 percent of the cost of production capital.

The standard for deductions from amortization into the FRPNT for full restoration should be computed by enterprise as an amount inversely proportional to the machinery-worker ratio, which is determined by the cost of the active portion of the fixed production capital per worker.

The choice of the machinery-worker ratio indicator as a standards-forming indicator is explained as follows: first, it directly indicates the structure (the share of the active portion) of the industrial-production funds; second, it reflects to a great extent the fixed capital's wear coefficient, since the higher the evaluation of the enterprises' active portion, the later this capital was put into operation; and, finally, a high machinery-worker ratio is linked directly with a high engineering level of the enterprises.

If it is considered that, at the modern stage of the cement industry's development, the FRPNT's optimal level in relation to production capital will be 5.7 percent, then, in subtracting the sum of the amortization deductions for full restoration, which is computed in accordance with the standards for the plants, from the total amount of the FRPNT for the branch, or the Main Administration, or the group of enterprises, we get the total of the FRPNT that should be reimbursed from the enterprise's calculated profit. This sum of profit (for the branch, Main Administration or group of enterprises) that is subject to inclusion in the FRPNT should be distributed among the plants in accordance with the achieved level of effectiveness in the use of production resources in accordance with the procedure proposed for differentiation of the enterprises' FMP. For this purpose we multiply the sum of the profit for inclusion in the plant's FRPNT, which is determined as the difference between the standard amount of the FRPNT (5.7 percent of the cost of production capital) and the sum of the amortization deductions that are included in the FRPNT in accordance with previously computed standards, by the coefficient of effectiveness, which reflects the ranking of the enterprise within the branch, the Main Administration or group of enterprises in level of effectiveness. After this, the sum of the enterprise's profit that is deducted into the FRPNT, as well as the standards for deductions into the FRPNT from the profit that remains at the disposal of the plants, which is computed on the basis of it, will correspond to the efficiency in production-resources utilization that has been achieved.

Calculations conducted for Glavtsement have indicated the necessity for involving an estimated 85 million rubles of additional profit during the year by increasing the deductions from profit for the budget and the ministry.

Only in so doing can the branch's enterprises independently execute radical technical rebuilding, including the conversion of enterprises from the wet method to the dry one. If these most important measures for introducing energy-saving technologies are financed through a centralized FRPNT of the ministry and from the state budget, the enterprises' responsibility for the most speedy realization of the measures is considerably reduced. Even the idea itself of converting enterprises to full economic accountability and self-financing is being discredited, since almost half of all the branch's capital investment will be executed, as before, from centralized sources, including, what is especially impermissible, financing of the rebuilding of enterprises.

### Conclusions

1. The share of profit that is left for in-house needs for cement-industry enterprises (25.3 percent) is much less than the average for USSR Minstroymaterialov as a whole (33.7 percent) because of the lesser amount (in comparison with the average branch level) of the fund for developing production, science and technology.
2. Economic stimulation funds and the amount of profit that remain at the enterprise's disposal should depend upon the degree of utilization of production resources.
3. The amount of FSR depends not only upon the production efficiency achieved but also upon the degree to which enterprise collectives are provided with non-production fixed capital.
4. The fund for developing production, science and technology (FRPNT) should average, for cement industry enterprises, not less than 5.7 percent of the cost of the fixed capital. It is proposed to differentiate the standards for deductions from amortization for full restoration into this fund as a function of the machinery-worker ratio that has been computed, by enterprise.

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## POLICY, ORGANIZATION

### Roundtable on Goods Scarcity, Production Problems

18270/04 Moscow *IZVESTIYA* in Russian  
24 May 89 (morning edition) p 2

[Article by M. Krushinskiy: "Vigorous Measures Needed: What Leading Authorities Think About the Situation in the National Economy"]

[Text] During the days when lines for salt formed in front of the counters of Moscow stores, the meeting-discussion "Economic Reform: Results, Problems and Prospects" was held in the Hall of Columns of the House of Unions. It was organized by the Association of Young Enterprise Directors of the USSR. Energetic and critical production managers from throughout the country as well as prominent economists and, in general, people whose active public position has brought them broad recognition discussed the reasons for the critical situation in the national economy and ways to overcome it as quickly as possible.

What do they see as the root of the current difficulties? The inadequately consistent implementation of the planned reforms. The continuing lack of rights of labor collectives relative to departments. The stereotypes of a general leveling that are far from having been overcome. The imperfection of the laws and low level of the management of the economy. The tenacity of structures established back in the time of Stalin and of the vexatious miscalculations made even in the years of perestroika.

No one tried to put the blame on the reforms themselves or on the management methods arising as a result of the reforms—such methods as leasing and cooperatives. The practical people who gathered in the hall did not need to be shown that the role of the one as well as of the other is still negligible, despite the efforts of the "lower strata."

"I have been trying to get a lease for 2 years," complained, for example, V. Ilyin, director of the Prokopyevsk Plant for Automated Mining Machinery, "but I just cannot break through the departmental wall...."

The participants in the meeting familiarized themselves with the results of a survey among young production managers throughout the country carried out by a laboratory for the study of public opinion under Moscow State University. Most of the approximately 300 polled think that the main thing for the normalization of the economy is to develop competition among enterprises and free enterprise. They name the transfer of the ownership of the means of production to the hands of labor collectives as one of the most important tasks.

Virtually all of those speaking touched on the problem of ownership. Perhaps Dr of Economic Sciences Ye. Yasev from the Central Economic and Mathematical Institute of the USSR Academy of Sciences expressed the general opinion best.

"We must recognize," he said, "that state ownership in its traditional form has not justified itself. It can be maintained only as property leased from the state by collectives. And it must be supplemented through other forms: cooperative and joint-stock ownership."

Other points of view were expressed with respect to "supplementing" with what. A. Yemelyanov, member of the Academy of Agricultural Sciences, called for the removal of the disgrace from such a category as private property, otherwise how can one define the status of the family farm? He stressed that this does not involve any deviation from the principles of socialism, because the exploitation of another person's labor is precluded. A private peasant farm, the academician thinks, is not the only possible model in the rural areas but its role in supplying the people with food could be decisive. True, it is not so easy now in our country freed from the peasantry to find those who are willing to accept a full measure of peasant labor and responsibility.

What must be the procedure for the transfer of the primary food stocks directly to the hands of the working people? If this is done in the manner of an uncompensated act, different labor collectives will find themselves in an excessively unequal position: some, let us suppose, will get a barber shop and others a plant for the production of space equipment. P. Bunich, corresponding member of the USSR Academy of Sciences, pointed out this complication in his speech. He thinks that the means of production must still be redeemed. The optimum form of redemption is a lease from the state. At the end of their depreciation period, they become the collective property of the workers, who can also shorten this time if they pay for them sooner. It is natural that the new stocks established through the investments of the collective itself also belong to it and not to the state.

The development of these processes, said the participants in the discussion, is being slowed by the bureaucracy, because it undermines the material basis for its existence. For departments have become accustomed to disposing of depersonalized state property in their own interests. But there is no other way to free ourselves from the superfluous administrative staff in the economy than to remove the material basis for it. A simple administrative cutback and even the elimination of entire ministries lead only to the formation of a "nomadic" contingent of administrators without resolving the problem in essence. To eliminate the bureaucracy, it is necessary to eliminate its function, said the well-known builder N. Travkin.

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Amorphous and depersonalized ownership is the main obstacle on the way to a free market based on the free competition of socialist commodity producers. Its absence inevitably leads to stagnation and a dearth of goods.

"A free market is the dictate of the society over production and any monopoly is the dictate of production over the society," is how Dr of Economic Sciences V. Bogachev expressed this idea.

The economists speaking at the meeting noted that we need a free market not only of consumer goods and not only of the means of production but also of investments and manpower. With a skillful economic policy, the latter will not result in unemployment at all but in a remuneration of labor corresponding to the standards of a developed state. In our national income today, the share of wages is extremely small, which is one of the reasons for the low interest of people in efficient labor. It is first necessary, of course, to change the structure of the economy itself, to turn it towards the needs of people and to free it from "production for the sake of production." But it was noted at the meeting that in the current situation, with all of its extraordinary features, attempts to economize on wages demonstrate either someone's incompetence or unconscientiousness.

Yes, today the channels of money turnover are overflowing. To combat this predicament, it is necessary to reduce sharply monetary payments not related to the production of commodities purchased for money, above all wages for the building of countless industrial facilities that do not promise a rapid yield in the form of all those goods for the people. The participants in the meeting called for a "cut" of a minimum of 30 to 40 percent in the number of such construction projects and, what may be even more important, no new involvement in long-term and expensive construction projects, reducing the front of capital investments. The economy would be greatly helped by the elimination of clearly unprofitable production systems as well as superstructures that sometimes produce more harm than good. It is necessary to find an application for the liberated labor in those areas where it will not contribute to an increase in inflation.

But how, the economists and producers asked, could someone come up with the idea of hitting wages in general, of linking them to such an artificial—especially under our conditions—indicator as the increase in labor productivity? For the undermining of economic incentives leads to a decline in the production of those goods that can only "dilute" inflationary money, give them real coverage, eliminate lines and fill the store counters with something.

To live strictly according to one's means, at the same time doing everything possible to encourage people to work efficiently, is the simple formula worked out in the course of the meeting for overcoming the commodity-money imbalance. Wages must be strictly "tied" to the

final product (as, for example, at leased enterprises) and depend only upon it. All artificial limiters of wages should be removed immediately and the corresponding departmental instructions declared illegal. The broader question of stopping the law-making activities of departments that frequently nullified reforms was also raised.

Economists are frequently accused of being detached from this "sinful earth." It is said that they devise excessively general concepts that are not very compatible with practice or that require administrative adjustments. They theorize, for example, about the market and how to establish it when the country lacks a uniform hard currency.

We will be fair, however. Economic science gave the answer to the indicated question about 2 years ago. IZVESTIYA alone wrote about this three times and other mass media, including Central Television, also reported on this. But no really intelligible explanations were received from departments. Is this not the reason why there is no progress being made in the sense of a normalization of the monetary system? Dr of Economic Sciences P. Medvedev, a lecturer on the economic faculty of Moscow State University and one of the authors (along with V. Belkin and I. Nit) of the elegant and painless procedure for the conversion of money, asked about this. I remind you that it is a matter of the utilization of money received from the final consumer as the single means of payment in the retail as well as the wholesale market.

Perhaps something is economically incorrect here? Or perhaps someone has already invented another more effective procedure for converting money into an economic tool? Let us suppose that this is so. But I repeat that no explanations have been received either by the editor's office or by the above-mentioned economists. And time is passing....

It is not yet too late; the most energetic measures are needed to normalize the economy. This is the opinion of those participating in the meeting-discussion. What did they propose in addition to what has already been mentioned?

Make all investments only through credit and raise the interest rate so as to "scare" enterprises away from ineffective loans. Resort to the sale of bonds both to enterprises and to the population—on a strictly voluntary basis, of course. More extensively sell to the population all kinds of items that are difficult to dispose of as well as old equipment (trucks and buses), also utilizing auction sales; in so doing, part of the receipts obtained must systematically be removed from monetary circulation. Reduce expenditures for defense and "space." Review the structure of our imports, having significantly increased the share in it of consumer goods, in which the state, in addition to everything else, has a good income.

Having said this from the rostrum of the Hall of Columns, Dr of Economic Sciences also called for us not to abandon the idea of foreign loans.

"In the present situation, or primary duty is to take care of the low-paid categories of the population," said M. Bocharov, director of the Butovskiy Building Materials Combine. "For there are pensioners receiving 40 to 50 rubles a month. Can one really live on this?!"

Other participants in the discussion also talked about this. It is long since time, they stressed, to develop an index for the cost of living and to "tie" fixed incomes to it. If the index goes up, the pension is raised automatically. And something else. However difficult it may be for all of us and however bad inflation gets, the society has no right to abandon old people and invalids in their misfortune.

The meeting-discussion in the Hall of Columns had a very pronounced precongress nature. It is not just that there were many people's deputies in the hall and at the rostrum (by the way, most of the participants in the meeting named here are deputies). Many of the ideas presented seemed to be addressed directly to the future congress. The thought was heard that today it is impossible to restructure the economy radically without changing its superstructure. And this is a political problem. It was stated at the meeting that the people expect not general slogans from the congress but specific solutions to the most pressing questions.

## GOODS PRODUCTION, DISTRIBUTION

### Citizens Surveyed on Consumer Shortages

18270109a Moscow NEDELYA in Russian  
No 20, 15-21 May 89 p 6

[Article by Doctor of Philosophical Sciences V. Rukavishnikov, scientific director of the All-Union Complaint Book's polling program: "They Have Disappeared From the Shelves: What Goods Have Been Added to the List of Shortages"]

[Text] At the beginning of the year, in Issue No. 1 of *Nedelya*, we published a questionnaire from the Mnenie public sociological service. It was entitled "Attention—New Shortage!" We asked the readers to fill it out, clip it out of the paper and send it to us. A total of 5,008 questionnaires were returned to the editors. The sociologists feel that this is a perfectly adequate quantity of material for analysis and for deriving conclusions. So what were they?

**First Conclusion:** Although there was a diverse range of respondents, the list of goods was very similar. The slight hope we held when we published the questionnaire that

shortages were a regional phenomenon and that a shortage of certain goods in some cities would not be experienced at all in others turned to ashes. Oh my! When a product becomes scarce, the scarcity occurs simultaneously everywhere.

The same products appeared practically everywhere on the list of "new shortages" (that is, as we explained in the questionnaire, goods with which there had previously been no problems but which had suddenly disappeared). Among the nonfood items these were primarily detergents (soap and laundry powder), cosmetics and razor blades. Food items included sugar, candy, tea, coffee and cocoa. The disappearance from the shelves of some goods, as, for example, zippers, was noticed primarily by women, while lengthy disruptions in the sale of others—gasoline, slate and brick—were detected by men. The youth mentioned the impossibility of buying compact cassettes for tape recorders, tennis racquets, balls and musical instruments.

The complete list of unavailable goods compiled from the readers' questionnaires included slightly more than 50 items. And although many of them have long been in short supply (track shoes, automobiles, television sets, refrigerators, washing machines, furniture and outer clothing, for example), the persistence with which our respondents included them on the list of "new shortages" indicates their extreme irritation with the constant absence of these items for sale.

Table

	Number of times mentioned per 1,000 questionnaires	By how many times the speculators' price exceeds the state price
Food Items:		
Sugar, candy	117	1.5-3.0
Black tea, coffee, cocoa	113	2.0-6.0
Meat, sausages	29	2.0-3.0
Milk and dairy products	24	2.0-4.0
Potatoes	18	2.0-5.0
Fruit	9	2.5-3.0
Vegetable oil	6	2.0-2.5
Yeast	5	2.0-3.0
Fish and prepared fish products	4	2.0-2.5
Salt	4	2.0-3.0
Nonfood Items:		
Soap	433	1.5-5.0
Laundry powder	405	1.5-6.0
Cosmetics, perfumery including:	353	1.5-30.0
—Toothpaste	203	1.5-5.0
—Shampoo	65	2.0-6.0
—Hair spray	12	2.0-3.5
Razor blades	36	2.0-3.0
Compact cassettes	84	1.5-5.0

Table

	Number of times mentioned per 1,000 questionnaires	By how many times the speculators' price exceeds the state price
Footwear	53	1.5-4.0
Hosiery items	46	2.0-4.0
Outer clothing	42	2.0-2.5
Underwear	16	2.0-4.0
Sporting goods	15	1.5-5.0
Fabrics and wool	13	2.0-3.0
Photographic supplies	11	5.0-10.0
Zippers	10	2.0-5.0
Television sets, refrigerators, washing machines	90	1.5-2.0
Furniture	30	1.5-2.0
Automobiles	10	1.1-2.0
Medicine	15	2.0-3.0
Contraceptives	15	10.0-20.0

There is a popular joke among the economists today that all of our troubles are due to the fact that commodities have disappeared from the "money-commodities-money" formula. It is no laughing matter for us consumers, however, when we find speculators with goods which have disappeared from the stores; our money also disappears. Speculative prices exceed state prices several times over. According to the questionnaires cosmetics hold the record in this respect. In second place are contraceptives, the price of which has increased by a factor of 20 due to the threat of AIDS.

Here is a typical questionnaire:

**Goods with which there were previously no problems but which have now suddenly disappeared?—"cosmetics, candy, footwear."**

**For how many days or weeks have these goods been unavailable?—"From September to the present."**

**Are there cases of speculation with these products?—"Yes."**

**And how much do they ask for them?—"Eye shadow, 8 rubles; lipstick, 15 rubles; mascara, 20 rubles." (Student N.Ye. of Ekibastuz, Pavlodar Oblast, Kazakh SSR)**

**Second Conclusion:** The public believes that steps to eliminate the shortages must involve primarily improving public production at the state level. The most frequent suggestions were the following: "increase output and improve the quality of consumer goods," "improve planning and the study of demand," "reduce military outlays and rapidly re-specialize the defense branches" and "increase the number of enterprises operating

jointly with Western companies." A considerable portion of those filling out the questionnaires advocate the establishment of proper order in trade ("establish criminal liability for concealing goods" and "step up state and workers' control"). The consumers demand that social justice be established in the area of distribution ("let the ministers and their wives experience the same torments and deprivations which we encounter when we go to a store"), and believe that it is essential to increase imports of consumer goods to the USSR and to reduce exports of those items which are in short supply for the nation's citizens.

Although there is a folk saying that "one sleeps soundly without money," none of the respondents to the questionnaire advocated increasing prices for goods as a measure for combatting shortages. On the contrary, "in order to reduce the incomes of those who buy up goods and speculate," they propose reducing state retail prices for goods in great demand where they are clearly too high—prices of panty hose, automobiles, coffee and gasoline, for example. Speculation will not be overcome with this measure, of course, and it is at the very least naive to count on that. But then Article 17 of the law of the USSR on the State Enterprise (Association) contains the following: "prices must reflect publicly essential outlays for the production and sale of products, their consumer features and quality and the extent to which demand is backed up by the ability to pay." And so, when the consumer encounters excessively high prices which continue to grow, his natural reaction is to blame those who set the prices and those who monitor their increase. Certain readers therefore believe that we need to "eliminate all ministries and departments" and at the same time "forbid cooperation." Such extreme demands are hardly worthy of serious consideration, of course. The suggestion that we "introduce temporary tax breaks for those who produce inexpensive and quality consumer goods, whether it be state enterprises or cooperatives," is obviously worth considering.

**Third Conclusion:** The list of "new shortages" contains practically no nonessential items. People run from store to store in search not of luxury items but the most commonly used products. What is causing this? The low price, which deters producers from making these items? Planning deficiencies or speculation by consumers? Probably all three. One thing is for certain: urgent steps are needed to eliminate the acute shortages. What kind of program is needed to stabilize the market? I believe that the newly elected people's deputies of the USSR and the societies for the protection of consumer rights need to become involved in developing it.

#### **Unfair Distribution of Scarce Foodstuffs Described**

*18270109b Moscow SOVETSKAYA ROSSIYA in Russian 13 Jun 89 p 4*

[Article by A. Zabela, section head on the People's Control Committee of the RSFSR: "Disorder Behind the Counter: Why Scarce Food Products Slip Away From the Stores"]

[Text] We have a fair procedure whereby scarce goods are to be distributed by the local soviets of people's deputies. Frequently, however, the ispolkoms [executive

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committees] essentially evade these responsibilities: trade agencies actually exercise autocratic control over state resources. They proceed not in accordance with what God places on their hearts but in their own interests. Once again, the notorious notes, telephone calls, boxes of items with names on them.... Plant, school and student dining halls are cheated. On average only 55-70% of their needs for meat and less than half of their needs for oil are met. There are breakdowns also in the supply of other products.

The Kuybyshevnefturs [workers' supply administration] fell short by 728 tons of meat, slighting 18,000 duty-shift workers at one time. The oil workers, they reason, will survive a long way from home even on concentrated rations. The RSFSR Minleskhoz allocated only 17% of the needed foodstuffs.

Old people, children and the ill are being cheated. Many lead trade workers—pardon the expression—spit on their needs. Hospitals, kindergartens and homes for the elderly in the Kalmyk ASSR, for example, receive only half the amount of fruits and vegetables they need and receive no fish at all. Health facilities in Volgograd Oblast were shorted by one quarter of their potatoes, a third of their fruits and half of their vegetables and fish.

The aforementioned city of Kuybyshev, which has the only store for supplying establishments funded out of the state budget, has distinguished itself once again. The oblast ispolkom assigned 23 outside organizations to this store, which drastically increased the demand on the already meager supply for children, the elderly and ill.

Trade organizations distribute coupons for meat, sugar and other scarce products at their own discretion. When the oblast ispolkoms introduce the coupon system, they frequently permit the matter to proceed on its own. The trade system itself prints the coupons. Record-keeping is only a formality. People are not assigned to specific stores, and they therefore travel fruitlessly throughout the city in search of needed products. Meat and delicatessen items are not included in food orders. They are received only by trade workers and their acquaintances. There is a harmful and degrading dependency of entire labor collectives upon the trade system, whereby sales are made according to notices and letters from establishments and enterprises. There is only one law: If I want to, I'll let you have it; if I don't, just close the door of the trade center when you leave.

Avaricious chaos reigns also in the distribution of coupons for sugar. A total of 27,000 unregistered coupons have been discovered in the Engels City Organization for Trade in foodstuffs, for example. Cases of this have been revealed also at the Ulyanovsk Gorplodovoshcheprom [City Organization for Trade in Fruits and Vegetables]. At Store No. 8 of the Balashov Gorprodorg [City Organization for Trade in Foodstuffs], for example—12

tons of sugar was sold without coupons. The figure was 113 tons for the trade system as a whole. The people with coupons were left with nothing, of course.

It has become a common thing for the trade system to service participants in various meetings and conferences and other mass assemblies with food designated for feeding the workers. A fourth of the foodstuffs allocated for the dining hall of the Elista Construction Materials Combine was sold at city conferences....

Restaurants continue to be provided with funded meat products which they use for receptions, banquets and special service activities. For example, the Balashov Public Dining Trust sent a quarter of its frankfurters and saveloy and a third of its sausage to restaurants at the expense of the dining halls. The Kuybyshev Oblast Restaurant and Cafe Trust consumed 995 tons of beef. The Vizit and Prileseye restaurants in Tolyatti received 225 tons of meat from state stocks. And this at a time when the VAZ [Volga Motor Vehicle Plant] Public Dining Combine falls short of the quota by 2,000 tons of meat products annually.

Food designated for workers employed at the heaviest jobs frequently disappears. At the order of rayon authorities the ers for the Kuybyshev Sulphur Plant engaged in trade in scarce foodstuffs on the side 45 times. In the meantime there is scarcity and monotony in the plant's dining halls. Less than half of the 57,000 cans of stewed meat earmarked for the line workers in the ers of the Kuybyshev Railway Section was issued to them; the rest disappeared no one knows where.

Foodstuffs are frequently squandered... through stores for the disabled and war veterans. It is a fact that when the stomach talks, that which is most sacred is silent. A total of 29 tons of meat and 63 tons of sausage disappeared somewhere at Store No. 32 of the Kirov Organization for Trade in Foodstuffs in Astrakhan. At the same time all of the city's stores taken together sold only 77 tons of sausage to the disabled and war veterans. And there are more than 21,000 of them in Astrakhan. A lot has been done to establish social justice in the oblast since the arrival of the new first secretary of the party oblast committee. Order should be established also in the distribution of scarce foodstuffs.

They say that a fish rots from the head down. If Kalmyk ASSR Minister of Trade B. Yendonov regularly sets aside enormous quantities of fish and other delicatessen items and then doles them out at his own discretion, what is to be expected of his subordinates? They do the same as their minister. There are more than enough facts to bear this out.

It is absolutely inadmissible for trade workers to sell good foodstuffs for use as livestock feed. At eight poultry farms inspected in Kuybyshev oblast, for example, more than 900 tons of curds had been procured at retail prices

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for the poultry. And requisitions from trade organizations, children's and medical establishments are regularly not filled. At just 40 kolkhozes and sovkhozes inspected in Volgograd Oblast 1.5 million rubles worth of foodstuffs had been fed to livestock: 320 tons of fish, 580 tons of curds, and so forth. Certain trade enterprises sold one third(!) of their allocated foodstuffs to the farms. This is far easier, after all: just send the entire carload of fish to a poultry farm and you do not have to bother selling it to the public. More than 34,000 tons of good food products was fed to livestock and poultry in just 14 oblasts inspected.

The large-scale outrages which have been revealed with respect to foodstuffs indicate a lack of monitoring on the part of the RSFSR Ministry of Trade, the RSFSR Union of Consumer Cooperatives and local soviets. Since the squandering of foodstuffs has become large-scale and has been detected by people's controllers for a number of years now, it has been decided severely to punish those to blame. Reprimands or firings will not resolve the problem, of course. We need to create a situation in which it is objectively impossible to pilfer or squander foodstuffs in the trade system. As the saying goes, so near

and yet so far. For this purpose we must first of all establish the most rigid monitoring of the consumption of scarce foodstuffs under the supervision of trade union organizations and the soviets of the labor collectives. Everywhere we checked, there was either no monitoring or ineffective monitoring.

Finally, our committee has appealed to the Presidium of the RSFSR Supreme Soviet to pass an ukase making changes in the republic code of administrative infractions. We consider it extremely important to establish material liability for individuals permitting foodstuffs to be squandered or to be fed to livestock. We believe that it would be expedient to abandon the practice of allocating funds for foodstuffs to trade organizations. They should be sent to rayon and city ispolkoms. And only the ispolkoms should be authorized to print coupons. Incidentally, this has already been done in Volgograd, Vologda and Chelyabinsk oblasts. The local soviets must assume day-to-day control over the outlay of scarce foodstuffs because this matter affects the vital interests of millions of people. Social justice must be absolutely observed in this matter.

## FUELS

### 1988 Coal Industry Performance, 1989 Tasks Noted

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pp 8-10

[Article by N. A. Petrov, deputy chairman of the council of the USSR Ministry of Coal Industry: "On the Results of Fulfillment of the 1988 Plan by the Sector's Enterprises and Organizations and the Tasks for 1989 Under the Conditions of Full Cost Accounting and Self-Financing"]

[Text] The council of the USSR Ministry of Coal Industry [Minugleprom], formed for the purposes of deepening democratization and widely encouraging representatives of labor collectives to participate in the sector's administration, and achieving a more effective combination of the principles of one-man command and collectivism in administration, held its first meeting on 19 January 1989.

At its meeting, the council of the USSR Minugleprom examined the issue of fulfillment of the plan for economic and social development of coal industry in 1988 and the tasks of the sector's enterprises and organizations in 1989 under the conditions of a transition to full cost accounting and self-financing.

USSR Minister of Coal Industry M. I. Shchadov, chairman of the Minugleprom's council, gave a report. The speaker noted the positive trends in the sector's development and offered a deep analysis of negative factors inhibiting acceleration of restructuring.

Introduction of the new principles of management promoted an improvement in the results of the sector's work. The targets of the state plan for producing commercial products, mining coal, producing concentrate and high quality fuel and for labor productivity were fulfilled in 1988 and in 3 years of the current five-year plan by the USSR Minugleprom as a whole. The shortfall in production of coal briquets was made up, and a tendency toward better work of coal machine building plants and in capital construction was noted. Plans for construction of housing and social facilities were met. Production of consumer goods and agricultural products increased, and the sphere of paid services to the public was widened.

In comparison with the corresponding period of the 11th Five-Year Plan, in 3 years of the current five-year plan coal extraction grew by 139 million tons, to include 53 million tons of coking coal. Production of concentrate increased by 72 million tons, and extraction of high-grade coal increased by 19 million tons. Capacities capable of mining 79 million tons of coal were introduced by means of new construction and remodeling. In

1988, 762.5 million tons of coal were mined, including 17.2 million tons in excess of the plan; the extraction increment was 11.8 million tons.

Mines and open pits of the Karagandaugol, Vorkutaugol, Yuzhukuzbassugol, Krasnoyarskugol, Oktyabrugol, Torezantratsit, Chelyabinskugol, Severokuzbassugol, Kemerovougol, Yakutugol, Intaugol and other associations made a significant contribution to these results. These associations are credited with over 11 million tons of coal mined in excess of the plan, and 200 million rubles profit in excess of the plan; they attained the best indicators for labor productivity.

The collectives of many mines, open pits, concentrating mills and plants worked with high responsibility. Among them are the Raspadskaya and Kapitalnaya mines in the Kuznetsk Basin, the Vorgashorskaya Mine in Vorkuta, the Mayskaya Mine in Rostov Oblast, the imeni A. G. Stakhanov and imeni A. F. Zasyadko mines in the Donets Basin, the Tentekskaya Mine in Karaganda, the Neryungrinskiy Open Pit in the Yakut SSR, the Berezovskiy Open Pit in the Kansk-Achinsk Fuel and Energy Complex, the Cheremkhovskiy Open Pit in Irkutsk Oblast, and many others.

Millionaire brigades were the leaders in attaining the highest labor productivity. They made maximum use of the mining and mine transport equipment in coal mining, stripping and preparatory operations.

Noting the positive shifts in production, M. I. Shchadov emphasized that in this critical period of restructuring, we cannot forget the large and complex unfinished tasks associated with the sector's further development, and the need for providing an uninterrupted supply of fuel to the national economy. The main thing in restructuring is the attitude toward the individual, toward his concerns and needs. Surmounting the gap in development of the social sphere and change in the psychology of executives is one of the most important tasks of coal industry. In 1988, 1.1 billion rubles were invested into the development of the social sphere, which was 1.8 times more than was foreseen by the five-year plan. The amount of new housing space totaled 2,443,000 m<sup>2</sup>. In 3 years of the current five-year plan the quantity of housing placed into operation increased by 800,000 m<sup>2</sup> in comparison with the corresponding period of the 11th Five-Year Plan, and the housing conditions of 130,000 families were improved.

However, the sector's social problems remain the most urgent: there is still much to do in this area. Out of the assets allocated in 1988, 155 million rubles were not assimilated, including 51 million rubles in the Kuznetsk Basin, 31 million in the Ukraine, 15 million in the Far East and 14 million rubles in the Moscow area. The main debtors are the Donetskshakhtostroy and Voroshilovgradshakhtostroy combines and the Severokuzbassugol

and Tulaugol associations. The Yuzhkuzbassugol Association and Kuzbassshakhtostroy Combine in Mezhdurechensk, where 10,000 m<sup>2</sup> of housing space and children's nurseries with a total capacity of 410 were not placed into operation, were responsible for an especially large failure. A number of executives of the associations and of the USSR Minugleprom failed to take the necessary steps to acquire housing on a proportionate basis. The shortfall in 1988 was 93,000 m<sup>2</sup>, including in the Karagandaugol and Krasnoyarskugol associations and in Voroshilovgrad Oblast. The plan for razing dilapidated housing in the Moscow, Kuznetsk and Pechora basins and in Voroshilovgrad and Donets oblasts, where the established targets were only 30-58 percent fulfilled, went uncompleted.

The problems concerned with building hospitals and polyclinics have not been solved in all mining cities and towns; the supply of heat and water remains an acute problem, and construction of waste treatment and other nature-protecting facilities has fallen behind. The unsatisfactory work of a number of associations producing consumer goods and providing paid services to the public was noted in the report, though in most production associations, enterprises and other organizations there are many unutilized reserves.

Positive examples of carrying out the Food Program were cited by the council of the USSR Minugleprom. In certain associations (Intaugol, Chelyabinskugol, Vorkutagol and others), significantly more meat and milk was obtained for every worker than the average for the ministry in 1988. At the same time inadequate attention is being devoted to this issue in the Ukraine, in the Moscow region and on Sakhalin, where hopes are laid on centralized deliveries.

We must come to a firm understanding today that we will be unable to successfully implement social policy unless we achieve fundamental changes in basic production. This rigid dependence is dictated by the requirement of full cost accounting and self-financing, where the assets needed to solve social problems have to be earned by the collectives themselves, and the dimensions of these assets will depend on the results of fulfilling extraction plans and on production effectiveness. Evaluating the state of affairs from these positions, we would have to note that the uncertain work of associations of the Donets and Voroshilovgrad oblasts is eliciting special alarm. In 1988, 5 out of 11 production associations of the Glavdonetskugol GTU [not further identified] were unable to reach their targets: 48 mines (40 percent) accrued a debt of 4 million tons of coal to the state. The Voroshilovgradugol and Stakhanovugol associations did not fulfill their state order, and enterprises of the Selsdovugol, Artemugol, Ordzhonikidzeugol, Shakterskantatsit, Girzugol, Sredazugol and Primorskugol associations worked poorly. One hundred seventy mines and open pits (30 percent) did not meet their planned targets, accruing a debt of 17 million tons of coal to the state.

The work of large mines was unjustifiably poor: in the Donets Basin—Shakhterskaya-Glubokaya, Sukhadolskaya-Vostochnaya, Trudovskaya, imeni Chelyuskinets, imeni K. I. Pochenkov, Voroshilovgradskaya No. 1 imeni Ye. T. Abakumov, imeni M. V. Frunze and imeni Kosmonavt; in the Kuznetsk Basin—Pervomayskaya imeni S. M. Kirov, Kolchuginskaya, Tomskaya and others. Executives of these associations and mines are restructuring their work slowly, they underestimate their economic responsibility for the fate of their collectives, they continue to administer by injunction, and they are unable to rid themselves of the stereotypes of stagnant thinking, parasitism and consumerism.

Assimilation of productive capacities remains an especially acute issue. In 1988 half of the mines did not attain their productive capacities. Production costs increased at these mines by 227 million rubles, or by 0.53 rubles per ton of mined coal. Measures to assimilate output capacities and to increase the effectiveness of these enterprises must be developed with the participation of basin institutes, and they must be kept under the unweakening control of the councils of the labor collectives.

As before, the unsatisfactory work of the mines is the result of a chronic insufficiency of support to mineral extraction operations. Ineffective use of expensive mining equipment, especially the mechanized complexes of a new technical level and imported systems such as Pioma and Glinik, is totally impermissible under the conditions of full cost accounting and self-financing.

Around 200 stopes equipped with mechanized complexes carry a load of less than 300 tons per day. These are mainly in the mines of the Donets and Voroshilovgrad oblasts. The low level of organizational and engineering preparation of the mining sections results in prolonged idleness of the equipment, which attains 28-30 percent of the working time. Reequipment and elimination of bottlenecks at the coal enterprises and growth of the length of the supported mine workings are proceeding too slowly. The increment of the outlays on maintaining mine workings was over 40 million rubles in just 1 year. The slow rate of reequipment is the result of unsatisfactory work of coal machine building. In 3 years of the current five-year plan it failed to complete the plans for manufacture of a large quantity of tunneling combines, rock loading machinery, mechanized complexes, belt and scraper conveyors, electric locomotives, metallic props and other equipment. Just in 1988, the mines were left 20 mechanized complexes and 45 tunneling combines short, which placed not only the mining collectives but also the collectives of the machine building plants in a difficult position due to failure of deliveries to consumers.

Preferential development of coal processing factories and a decisive turn toward improvement in the quality of mined coal in all subdivisions are guarantees of the economic well-being of the productive associations and

enterprises, and of the sector as a whole. Some positive shifts in the quality and grade of the coal have been noticed, but in 1988, 35 associations failed to meet the target for producing concentrate and high-grade fuel. These included the Leninskugol, Shakhterskantratsit, Tulaugol, Dalvostugol, Sredazugol and other associations.

As before, many associations are not devoting adequate attention to the quality of the coal they mine. A total of 1.7 billion rubles were spent only on the extraction, transport and processing of around 145 million m<sup>3</sup> of waste rock. In this case the volume of rock cut from the stopes is not decreasing, and rock is being carted away together with coal from the shortwalls.

One of the main problems concerned with improving the quality of coal is its preparation in concentrating mills. For practical purposes the government target for mill construction has not been met: In 3 years of the five-year plan, essentially not a single concentrating mill has been placed into operation, including the Raspadskaya and Dolinskaya central concentrating mills, which were to be placed into operation in 1988 according to the plans; construction of the Vorkutinskaya Concentrating Mill is proceeding too slowly; construction of the Pavlogradskaya Central Concentrating Mill at the Oktyabrskaya-Yuzhnaya Mine in Rostov Oblast has not been started either.

A significant turning point has not been achieved in capital construction, despite some increase in the rate of assimilation of capital investments and of construction and installation work. In 1988, coal mining capacities totaling 4.5 million tons and coal processing capacities totaling 7.5 million tons were not placed into operation. Capacities have not been placed into operation at the Kharanorskiy and Tugnuykiy open pits of the Vostsibugol Association. The causes of such a situation are a lack of coordination between the construction program and material and equipment supply, and the lack of the necessary manpower at the construction projects.

As before, not enough attention is being devoted to erecting nature protection facilities with the purpose of preventing river and air pollution, and to recultivating worked areas, especially in regions such as the Kuznetsk and Donets basins, Sakhalin and the Kizel Basin, which is most intimately associated with improvement of social issues.

The economic levers and stimuli for raising the effectiveness of coal mining and processing enterprises, construction organizations, coal machine building plants and institutes must be utilized to the maximum in connection with conversion of all of the sector's enterprises and organizations to full cost accounting and self-financing. Unfailing fulfillment of labor productivity plans must be the most important factor of the new economic mechanism. The growth rate of labor productivity must surpass

the growth rate of wages. The dependence of pay on the end results of the work must be firmly maintained. Nonetheless, 12 associations and 13 coal machine building plants did not fulfill the labor productivity plan and 14 associations allowed labor productivity to decline in 1988.

The transition to full cost accounting requires implementation of measures to reduce outlays per unit of product. At the same time, 13 associations exceeded production costs by 70 million rubles in 1988. Such facts aggravate the unfavorable financial situation of the enterprises, and inhibit development of production and the social sphere. Such a situation has evolved chiefly due to an irresponsible attitude toward equipment. In most cases complexes of a new technical level are operating at a loss because they are underloaded, the level of manual labor is not decreasing, growth of the length of mine workings is a heavy burden on the economy, and production procedures are not improving. Recycling of materials is poorly organized and excessive losses of metallic props and other materials are high in many associations.

Acceleration of scientific and technical progress depends in many ways on the results of the work of scientific organizations. However, the scientific potential is not yet directed at solving specific problems. Problems concerned with controlling gas-dynamic phenomena have not yet been solved; procedures in which spent workings are blocked up are still in the experimental stage; no effective engineering concepts have been found for protecting and maintaining mine workings (Mining Institute imeni A. A. Skochinskiy, the All-Union Scientific Research Institute of Mine Surveying, the Makeyevka Scientific Research Institute for Work Safety in Mining Industry).

Mines exploiting steep seams and mines of the central Donets Basin and the Kiselevsk-Prokopyevsk region of the Kuznetsk Basin continue to have the lowest technical level of production, while institutes that are well-staffed—the Donets Scientific Research Institute of Coal, the Kuznetsk Scientific Research Institute of Coal and the Eastern Scientific Research Institute of Work Safety in Mining Industry—have been conducting fruitless searches over a long period of time in an effort to increase the work effectiveness of enterprises in these regions.

The State Planning, Design and Scientific Research Institute for Automation of Operations in Coal Industry has spent millions of rubles to create automated production process control systems, but this has not helped to reduce the number of personnel servicing automated apparatus.

Workers and executives of the mines, open pits, mills, combines, production associations, sector institutes and other organizations speaking at a meeting of the council of the USSR Minugleprom stated critical remarks and

proposals concerned with solving specific problems of production and social development, acceleration of scientific and technical progress, improvement of the structure of labor administration and wages, material and technical support and other problems associated with the work of enterprises and organizations under the conditions of cost accounting and self-financing.

The council of the USSR Minugleprom believes that raising the level of cost-accounting activity and improving the financial position of the enterprises and organizations in the sector are presently acquiring exceptionally important significance, in connection with which it is recommended that the ministry's administrations, the production associations, the combines and the councils of the labor collectives:

- deeply analyze the results of fulfilling the plan for economic and social development in 1988 and in 3 years of the 12th Five-Year Plan and, using the principles set forth by the 19th All-Union Party Conference and subsequent plenums of the CPSU Central Committee as a guideline, implement measures to reinforce positive trends in the economy, to deepen progressive structural changes, to consistently implement the principles of radical economic reform, and to decisively surmount the difficulties that arise;
- implement measures to accelerate the rate of scientific and technical progress by: increasing production and introduction of mining equipment of a modern level; improving mining management at the mines and open pits, employing sensible systems for uncovering and preparing mining districts, and achieving parameters of mine workings which would ensure minimum outlays on their maintenance; improving labor organization and the quality of repairs, reducing the rate of breakdown of machinery and mechanisms, and reducing unplanned idleness of operating working faces and shortwalls; widely introducing progressive experience in organizing production and raising the effectiveness of using mining and mine transport equipment;
- continue the effort to enlarge operating coal mining production associations as the basic direction of improving the sector's organizational structure and reducing the size of the administrative staff and the proportion of assets allocated for its maintenance.

Coal industry faces great and complex tasks in 1989—mining 774-775 million tons of coal, including 16-17 million tons in excess of the plan, placing 33.6 million tons of coal mining capacities into operation (fulfilling the plan for 4 years of the 12th Five-Year Plan), placing 19.2 million tons of coal processing capacities into operation, and fulfilling an intensive social program.

If all enterprises and organizations fulfill the recommendations adopted by the council of the USSR Minugleprom, they will be able to carry out the tasks facing them and make a significant step forward in accelerating the sector's development.

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#### **Kansk-Achinsk Coal Field Development Examined**

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[Article by USSR Minister of Coal Industry M. I. Shchadov: "Problems of Developing Coal Fields of the Kansk-Achinsk Fuel and Energy Complex"]

[Text] Implementation of the country's Energy Program is inseparably associated with intensive development of the coal fields of the eastern regions, among which the Kansk-Achinsk coal basin occupies an important place. In this time of restructuring of the administration of mining production, special significance is being acquired by problems which, if solved, would open up opportunities for intensive development of these unique coal fields containing soft coal reserves of around 600 billion tons, including more than 140 billion tons accessible to open pit development.

The main technological problem of the development of the KATEK [Kansk-Achinsk Fuel and Energy Complex] is creating highly effective, reliably operating open pits employing progressive procedures and characterized by a high level of mechanization of mining operations. This would require ensuring continuity of function of the principal stripping and mining processes, an increase in the intensity with which quarry fields are worked, high operational reliability of production equipment, and uninterrupted delivery of coal to consumers.

The horizontal and slightly tilted occurrence of coal seams of considerable thickness, relatively low ash content (up to 10-12 percent), and weak country rock provide the possibilities for creating large coal pits in the Kansk-Achinsk Basin employing flow-line procedures in stripping and mining operations and, in a number of cases, excavator transloading of overburden by large draglines into worked space.

The key factors in this are the degree and level of use of rotary excavators—the lead machines of continuous-action complexes—in the specific mining situation.

Removal of overburden by rotary excavators is complicated in a number of the basin's fields by the presence of hard inclusions, the concentration of which attain 1-3 percent. This presupposes the use of rotary excavators capable of higher cutting force in both stripping and mining; in this case some of the strong inclusions would require preliminary loosening by blasting. In this connection one of the problems associated with developing the KATEK's coal fields is detecting and determining the outlines of rock inclusions within the substance of the overburden. Effective use of rotary equipment in stripping would be possible only if dependable operational information is available on the structure of the bench in question and the parameters describing the occurrence

of rock inclusions. Such information can be obtained by the methods of geological testing employing modern procedures and apparatus. A number of methods of geological testing of rock have now been developed making it possible to determine its structure and properties, evaluate the frequency of fractures and water content, and determine abnormal objects such as rock inclusions and water-filled cavities. At the same time, the significance of geological testing is not limited solely to detecting geological anomalies taking the form of solid cavities within the substance of loose sedimentary rock, which would be developed using continuous-action excavation equipment. Geological testing may play an important role in raising the effectiveness of preparing the rock by drilling and blasting in application to procedures requiring transportation, cyclic flow-line procedures, and transport-free procedures.

All of the basin's fields may be conditionally divided into three groups in relation to the nature of the bedding of the coal seam:

Fields of the first group, which contain seams around 24 m thick, enjoy the simplest bedding conditions. Under these conditions it would be suitable to employ transport-free developing systems using high-power walking draisines (Figure 1 [figures omitted]). Open pits with a productive capacity of 10-30 million tons of coal per year may be developed at fields of the first group.

The second group of fields, which contain seams up to 60 m thick, are characterized by large coal reserves and a relatively low stripping factor (1-2 m<sup>3</sup>/ton). Open pits with a productive capacity of 30-60 million tons per year may be developed at these fields. The fields are to be developed using combined mining systems: transport items for upper stripping benches, and transport-stripping or transport-free systems for lower benches.

Fields of the third group will be worked predominantly by a transport system.

The first stage development has already begun; output equipment have been placed into operation at the Berezovskiy Open Pit No 1, and the Borodinskiy and Achinsk open pits are being developed.

In accordance with the plan, a rotary-conveyer complex consisting of the following equipment is being employed in mining operations of the initial period in the first production of the Berezovskiy Open Pit No 1: an ERShRD-5250 rotary excavator and a PMD-5250 haulage-trench gantry positioned on the floor of the pit. There worked a PKZ-5250 stope gantry and two KEM-5250 belt conveyors (each 900 m long) located on the roof of the seam. A KEM-5250 main belt conveyor is also positioned in the exit trench. Coal is fed

from the KEM-5250 main conveyor through accumulating silo bins to a P-4M loading point where it is loaded into railway ministry cars or directly through a system of main conveyors (14.8 km long) to the Berezovskaya GRES No 1.

The substance of the overburden is worked as two benches: as a main bench (20 m high) using a transport-dumping system (an ERShRD-5250 rotary excavator, a PKZ-5250 stope gantry and an OSZhR-5250 spreader), and a forward bench (up to 5.7 m high) using a transport system (mechanical shovels coupled with motor transport). Overburden from the main bench is selectively dumped in two tiers: loam from the upper and middle layers in the upper tier, and coarse gravel and loam from the base of the stripping bench in the lower tier, up to 15 m high. Dumping of the overburden in this fashion ensures stability of internal dumps with a resulting slope of approximately 22°.

In the first year of operation of the open pit, coal raised by the rotary-conveyer complex totaled only 3.6 million tons. In this case around 0.6 million tons of coal were fed to the Berezovskaya GRES No 1, and around 3 million tons were loaded into railway ministry cars. The maximum daily productivity of the mining complex was 35,600 tons, while the average daily productivity was 18,400 tons.

Nonetheless the first experience of operating the open pit revealed a number of significant factors which had not been examined in time in the planning stages and which prevent full use of the potential technical possibilities of continuous-action equipment. They include the procedure of stripping operations on the lower benches of the Berezovskiy Open Pit No 1, which require maintenance of a rather rigid relationship between stripping and mining operations, which limits the possibilities of independent movement of stripping and coal stope. Failure to account for the nonuniformity of coal extraction in the open pit by rotary excavators of both initial output capacity coupled with their limited number, juxtaposed to the stable rate of coal consumption by the GRES, and of the nonuniform nature of delivery of railway ministry cars for loading, made it much more difficult to determine the required volumes and locations of the intermediate accumulating storage sites. Participation of different departments in the single production cycle increases the difficulty of the problems, since from the position of each department it is undesirable to create intermediate storage sites that could smooth out the nonuniformities of the entire system's work in the same way that creation of intermediate storage containers at the location of each consumer to smooth out local nonuniformities is undesirable, and on the whole this makes it impossible to arrive at an effective solution.

Rapid growth of the volume of coal raised by rotary excavators in the sector (8 percent of total coal mining in 1980-42 percent in 1987) is due to the fact that

achieved mainly through the use of procedures employing rail transport. In the meantime, conveyor transport is employed universally abroad, making it possible to increase the productivity of rotary excavators by a factor of 2-3. Conveyor support to production processes reaches 80-100 percent in a number of countries, while the proportion of rock work done using conveyors in the sector is only around 7 percent. An example of a fully conveyorized enterprise in which rock and coal are worked by rotary excavators is the Fortuna Open Pit in the FRG, which has a productive capacity of 40 million tons of coal per year. In the GDR at the Anna Zyud Open Pit, a SRs(k)-6300 excavator is used to work the forward stripping bench, and an F-60 transport-dumping bridge is employed on the lower stripping bench of this open pit; the total annual volume of stripping operations exceeds 170 million m<sup>3</sup>; the coal extraction volume attains 28 million tons per year.

The basic technical concepts employed in the KATEK's open pits are doubtlessly progressive, based in general on the correct direction of development—flow-line production processes. Use of rotary-conveyor complexes in mining operations and high-output transport-dumping complexes on lower stripping benches makes it possible to significantly improve the technical and economic indicators of coal mining in comparison with traditional cyclic production systems.

Top-loading rotary mining excavators are acquiring special significance in the development of thick coal seams in the KATEK's open pits. Use of these machines makes it possible to locate belt conveyors on the roof of the bench (sub-bench) being worked, which is extremely important when it comes to working flooded stopes. Thus top-loading rotary excavators possess the merits of chain-type machines: In addition to excavating and delivering the excavated material to the roof of the bench being worked, they are concurrently capable of exerting high cutting forces (Figure 2).

New standard sizes of machines such as the following need to be designed and produced in order to satisfy the demand of the KATEK's open pits for the basic mining and transport equipment:

- ERP-5250 and ERP-5250V (top-loading) rotary mining excavators;
- belt conveyors with a delivery rate of 5,250 m<sup>3</sup>/hr transporting coal within the open pit and to the GRES;
- transport-dumping stripping complexes with productivities of 5,250 and 12,500 m<sup>3</sup>/hr, consisting of rotary excavators, spreaders and transloaders (bench-to-bench and stope);
- equipment for cyclic flow-line procedures used on overburden (including that containing rock inclusions).

- ESh-40/85, ESh-65/100 and ESh-100/125 walking draglines for a transport-free mining system

Possible changes in the demand for Kansk-Achinsk coal and refinement of the deadlines for introducing output capacities at the open pits will not make significant changes in the assortment of equipment presented above: They will only influence the quantity of this equipment. The principal suppliers of mining and transport equipment to the KATEK are the Krastyazhmash, Azovmash, Uralmash and Sibtyazhmash associations.

It should be noted at the same time that Soviet machine building is not yet fully satisfying the USSR Minugle prom's demand for mining and transport equipment (in terms of delivery dates and assortment). Cooperation with machine building enterprises of the GDR, and chiefly with the Takraf [transliteration] Works, which has now been established for many years, is rather promising in this aspect. Rotary excavators produced by these works are operating successfully in the severe climatic conditions of our eastern regions in conjunction with Soviet equipment (such as for example in the open pits of the Ekibastuz Basin). This positive experience may be extended to the KATEK.

Production systems employing SRs(k)-4000 rotary conveyors in mining operations in combination with an ARs(k)-8800.195 spreader have been developed to work lower stripping benches in a transport-dumping system.

Use of transport-dumping stripping complexes manufactured in the GDR equipped with the SRs(k)-4000 rotary excavator jointly with complexes manufactured in the Soviet Union equipped with the ERP-5250C excavator improves the conditions for forming internal dumps owing to the possibility for employing the ARs(k)-8800.195 spreader, which possesses a rotating superstructure with an unloading arm for fan-shaped disposal of rock in the lower tier of a dump (Figure 3).

The first transport-dumping complex consisting of an SRs(k)-4000 rotary excavator and an ARs(k)-8800.195 spreader has now been assembled in the Achinsk section of the Nazarovskiy Open Pit.

One of the key problems of the KATEK (and of open cut operations in general) is the level of organization of production and, as an integral manifestation of it, the level of equipment use. Unfortunately, introduction of new equipment is not always accompanied in a number of cases by growth of its productivity. The sector is plagued by considerable idleness of equipment, associated not with the design features of the equipment itself but with the organizational factors of its use. The productivity of high output rotary machines is presently low in practically all of the KATEK. At least two-thirds of the excavators are achieving only 25-30 percent of their design productivity.

The annual productivity of the ER-1250 and ERP-2500 rotary excavators at the KATEK's open pits is 15-20 percent lower than their performance in the Ekibastuz field; this is owing to the larger proportion of unplanned downtime, most of which (70-80 percent) is the result of organizational causes (absence of an efficient system of transportation support to the excavators, undermanning of the brigades and so on). This circumstance has led to a situation where the relative productivity (per ton of excavator equipment weight) of low and medium output machinery is approximately two times lower than of quarry mechanical shovels with comparable annual design productivity. The relative productivity of high output machinery (the ERShRD-5000 excavator for example) is approximately two times lower than that of medium output rotary machines. The relationship between the actual productivity of high and low output machinery is even worse, indicating that there is a need for conducting serious feasibility studies to support selection of the optimum output of rotary machines for particular mining conditions.

Analysis of Soviet and foreign experience in operating and designing machines with a high unit output capacity reveals that when it comes to creating equipment of traditional designs, world machine building has now reached a certain level beyond which increasing the parameters of the machines no longer produces tangible economic benefits. Each of the existing types of excavating machines possesses certain merits (particularly the possibilities for establishing a stable load flow with chain-type excavators in the case of frontally worked benches, separate working of different layers of benches by rotary excavators, using draglines to work benches by bottom scooping, and so on). Therefore when orders are placed for new machines, machine builders must orient themselves on a combination of the best qualities of the known designs within a new family of machines.

The new procedures must be based on dependable technical concepts that have been practically tested out in open-cut operations—ones pertaining to individual links of the processes and to the entire production processes; they should possess sufficient production flexibility, and they should ensure dependable operation of the entire chain of interconnected processes and machines. The production systems must permit solution of the problem of intensive working of a stripping zone with a minimum number of transport horizons.

The following basic principles must be observed when developing new production systems for stripping operations in the KATEK:

- an excavating machine must permit removal of overburden when the fractional composition of the rock deviates from calculated values within realistic limits; this includes the capacity for handling hard inclusions when their preparation by blasting cannot guarantee the granulometric composition required for conveyer transport.

- unreliable processes that are not presently based on effective technical concepts must be excluded from the production process;
- each of the transport elements in a production process must be utilized under optimum conditions (dump trucks should travel short haulage routes, belt conveyers should carry a stable load flow at maximum belt loading, and so on);
- the production process must function under all states of readiness of its individual units and elements (a certain decline in the overall productivity of a complex in extreme situations may be allowed);
- technical maintenance and repair of machines in the principal units of the production process should be dispersed through the season so that they could be carried out with a brigade of minimum size;
- development of the field and the production system must not have a harmful influence upon the environment, and they should guarantee complete reliability and safety of the work.

It should be noted that a number of the problems faced by the KATEK have not yet been adequately solved due to insufficient attention on the part of various organizations and departments responsible for their solution, and owing to the unique features of the coal mining complexes themselves, requiring meticulous coordination of organization and scheduling of the work of the coal mining, transport and consuming units within the region. The ecological cleanliness, reliability and safety of industrial enterprises are acute issues today; they must be resolved while concurrently satisfying the requirements of reducing their materials- and energy-intensiveness.

The consequences of understating ecological criteria, and the criteria for the reliability and safety of operation of production systems as well, are usually assessed after extremely improbable events occur. At the same time, Soviet and foreign experience shows that the economic consequences of such understatement exceed the local particular impact by many orders of magnitude as a rule. Textbook examples of construction of giant hydroelectric power plants, drainage of huge areas in the Ukraine within reach of iron ore mining and concentrating combines and, finally, the consequences of the Chernobyl Nuclear Power Plant disaster compel us to reexamine the traditional approaches to selecting the strategy for solving major problems.

Ecological issues must assume priority significance when assessing different design variants for coal industry facilities, when implementing the plans and when operating coal mining enterprises. Rejection of the practice of viewing ecological aspects of coal mining as being isolated and secondary, and switching to integrated resolution of all of the problems of selecting the types of coal

mining facilities and procedures and the equipment to be employed, with emphasis on protecting the environment, are fundamentally important.

Unfortunately, zones of industrial pollution characterized by indicators exceeding the maximum permissible values have formed in the western part of the Kansk-Achinsk coal basin. The scale and effectiveness of nature conservation efforts presently being implemented are not yet adequate, and they are behind the rate of development of coal mining enterprises and the requirements of the times. A number of urgent problems have not as yet been studied adequately by science, and scientific and technical accomplishments, the best production experience, and low-waste and wasteless production processes are being introduced too slowly.

Development of the coal fields of the KATEK requires meticulous study and weighted solution of the problems of reserving, disturbing and restoring land areas of the large relative size determined by the scale and nature of strip-mining operations. Dumping and recultivation processes must be combined in a single production system with the use of the basic dumping equipment for the most laborious recultivation operations. Such combination is one of the promising directions of improving recultivation of disturbed land.

Problems concerned with preventing the harmful influence of stripping operations in the basin on the region's aquatic environment have important significance. Significant exhaustion of underground water sources has been noted in areas adjacent to the Kansk-Achinsk Basin, manifested sometimes as total loss of delivery at water intakes that find themselves within the bounds of depressions in the water table. The radii of these depressions attain 3-5 km; rivers and lakes disappear and grow shallow; the water that is pumped out is contaminated by rock and coal particles entering into underground and atmospheric water accumulating in the mine workings. Industrial water basins are created.

The following must be employed in order to reduce the negative influence on the water resources of the Kansk-Achinsk Basin: drainage methods which would ensure that uncontaminated underground water suitable for use in the national economy without preliminary treatment can be pumped out; industrial drainage systems that would ensure a lowering of the water table directly within the zone of mining operations; mining and spreading systems intended for long term use and capable of reducing inflow into the open pit and creation of noncaustic pools of underground water in the dumps when the water table is restored. In the near future the drainage systems traditionally employed in the KATEK's open pits will be used in combination with underground water protection measures such as watertight and seepage systems that would support the use of water in the region in a timely manner.

It should also be noted that given the shortage of construction materials (including binders and fillers) experienced today by the sector, the problem of utilizing ash and slag from heat and electric power plants is acquiring great significance. A possibility has already been demonstrated for completely replacing cement by ash from KATEK soft coal in the production of blocking-up mixtures for the KUZ-120 blocking-up complex being placed into operation at the Koksovaya Mine. Use of this ash makes it possible to improve the ecological situation in the zones of operation of heat and electric power plants, and to significantly reduce the loss of valuable land to dumps. These and a number of other problems associated with protection of the aerial, aquatic and terrestrial environment are becoming decisive in the course of integrated development of KATEK coal fields. Negative ecological consequences manifesting themselves in the region in connection with construction of coal mining enterprises and heat and electric power plants predetermine the strategy of KATEK's development from this aspect as well. Implementation of this strategy must be preceded by development of ecologically clean procedures for mining coal and for burning coal at heat and electric power plants. Within the framework of the "Ecologically Clean Power Engineering" state program this strategy should foresee development and introduction of ecologically clean mining processes and electric power production from solid fuel, coupled with secondary utilization of useful components.

The production processes and their individual elements must be created in the KATEK in such a way as to ensure clean air and a clean aquatic environment in compliance with maximum permissible norms, and sensible land use coupled with effective industrial recultivation of land disturbed by strip-mining operations. For the most part, the urgent problems of the development of the KATEK described here also have a direct bearing on other regions in which the sector is employing strip-mining. The problems of raising the productivity and degree of use of quarry equipment which represents a significant part of the fixed capital are acquiring important economic significance and are going a long way to determine the effectiveness of open-cut coal mining in the present conditions of the sector's transition to full cost accounting and self-financing. Ecology is now one of the most significant problems of mining, solution of which must be a prerequisite of its normal function.

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#### Tengiz Oil, Gas Area Development Highlighted 18220137 Alma-Ata KAZAKHSTANSKIY PRIVEDD in Riomar 13 May 1989 p 2

[Article by V. Kulemin, A. Izmak and K. Kabbasov  
("Accelerated Development for Oil and Gas Complexes")]

[Text] Tengiz through the prism of its shokka. In connection with the increase in output of oil, oil and gas deposit and the need for additional oil and

social program for the development of Guryev Oblast, the republic's government, jointly with USSR Minnefteprom [Ministry of the Petroleum Industry], has developed an all-round program for these problems. For the very first time, questions concerned with the social development of the region occupy an important place in this program. The tasks confronting the petroleum workers, geological prospectors and builders are large-scale in nature. They are closely interrelated with the development of the chemical, petrochemical, power engineering and other branches and they touch upon the vital interests of a majority of the workers in the oblast. The fulfillment of these tasks will require a great amount of efficiency on the part of all labor collectives. Thus a need has arisen once again for an exchange of opinions on the questions under review and for a clearer definition of the chief trends concerned with the practical implementation of the tasks for developing the region's petroleum industry.

As already reported, a meeting of the party-economic aktiv was held in Guryev with the following subject on the agenda: "The Development of the Petroleum Industry and An All-Round Solution for the Social Problems of Guryev Oblast in 1990 and During the 13th Five-Year Plan."

#### Comments By Our Correspondents Regarding the Above Meeting

The petroleum industry is one of the key branches of the fuel-energy complex and the country's overall national economy. Kazakhstan is playing an important role in developing the petroleum industry of the USSR. Today the republic has large supplies of petroleum and gas at its disposal, with large amounts concentrated in the Pre-Caspian, North Caucasus, Mangyshlak and Turgay oil-and-gas bearing regions, located in Guryev, Aktyubinsk and Kzyl-Orda oblasts.

The "Tengizneftegaz" Association was created in 1985 for developing the unique Tengiz deposit. The confirmed recovered supplies of the deposit amount to 1.3 billion tons and yet the prospecting work has still not been completed.

The five-year plan calls for the placing in operation in 1988 of the first unit for the preparation of petroleum and the processing of petroleum gas. However, a delay of 8 months in the delivery of domestic and imported equipment has precluded the possibility of placing this unit in operation on schedule. The "Tengizneftegaz" Association has fallen behind in its 1989 plan for extracting petroleum.

The situation with regard to the placing in operation of the first phase of the start-up complex of the Tengiz deposit has been complicated by weak organization in drilling and construction. The "Prikaspiburneft" and "Tengizneftegaz" associations have not fulfilled their tasks for the preparation of wells. This work has been

adversely affected by the inefficient use of technical solutions for the framing of wells by the "Giprovos-tokneft" Institute. Untimely deliveries of pipe and shut off equipment and the weak organization of planning and construction operations by the "Tengizneftegaz" Association and construction organizations of USSR Minneftegazstroy have caused delays in the preparation of trade installations. Construction work on the second and third complexes by USSR Minneftegazstroy and Gosstroy for the Kazakh SSR respectively is being carried out only slowly and, as a result, the task of completing this construction is scheduled for the summer period of 1990.

The plans call for the "Tengizneftegaz" Association to place capabilities in operation in 1995 for the extraction of 30 million tons of petroleum and for the production of products obtained from the processing of by-product gas. In 1992 the plans call for the placing in operation of an ethane pipeline from the Tengiz deposit for delivering an ethane fraction to the Shevchenkovskiy Plastic Plant. The plans call for propane to be used as compressed gas for satisfying municipal-domestic needs in Kazakhstan and other regions of the country. A broad fraction of light hydrocarbons will be used in the production of chemical products.

Towards this end, USSR Minnefteprom, together with American, Japanese and Italian firms, is studying the possibility of creating the joint "Tengizpolimer" enterprise for obtaining 1 million tons of polyethylene, 600,000 tons of polypropylene and other chemical products. Moreover, within the framework of the Soviet-American consortium, discussions are taking place with the "Chevron" Firm on the creation of a joint enterprise for searching for, prospecting and extracting petroleum and for the processing of petroleum gas at the Korolevskiy deposit.

The petroleum industry continues to be an extremely material and capital-intensive branch. It possesses a powerful technical potential and today great importance is being attached to making efficient use of this potential, selecting the correct approach for the use of fixed capital, implementing complete cost accounting and to making scientific-technical progress an indispensable condition for efficient operations by each labor collective.

In 1990, taking into account the completion of the second and third all-round technological lines at the Tengiz deposit, the organization of the Kumkol deposit, the construction of the Tengiz-Shevchenko ethane pipeline and the organization of deposits as called for in the five-year plan, the plans call for the use of 1.2 billion rubles worth of capital investments. Capital investments during the 13th Five-Year Plan, excluding the "Tengizpolimer" Petrochemical Complex and the joint enterprise with the "Chevron" Firm, will be increased by 150 percent and amount to approximately 3.7 billion rubles.

A speech was delivered during the meeting by Minister of the Petroleum Industry of the USSR V.A. Dinkov.

In connection with preparing the program for developing the republic's petroleum industry, he noted that special attention is being given today to solving the social problems. For the very first time, during the 1990-1995 period, social direction will be given to the program through a decisive reorientation towards solving the social problems on a priority basis in 1990. The plans call for capital investments for non-productive construction to be increased by more than one and a half times, for its volume to be raised to 1.2 billion rubles and for an increase to take place in the construction of housing, kindergartens, schools, polyclinics and hospitals.

The chairman of the Council of Ministers for the Kazakh SSR N.A. Nazarbayev also delivered a speech during the meeting.

During his speech, he noted that the extraction of petroleum here began even prior to the revolution. And the uncovering now of such a large volume of hydrocarbon raw material on the territory of the Pre-Caspian Depression is opening up greater prospects for developing the oil industry in Kazakhstan. Last year, 22.3 million tons of petroleum were extracted here and the republic is being assigned the task of raising this extraction amount to 56 million tons by the end of the 13th Five-Year Plan.

However, we are still confronted by the critical problem of developing the social sphere in Guryev Oblast, which occupies one of the last places with regard to the availability of polyclinics, hospitals, childrens' pre-school facilities, movie theatres, clubs and other social installations. An alarming situation exists in the oblast in connection with supplying the population with drinking water and food products and the development of sewerage networks is lagging behind.

Nor is the situation any better in the area of housing. Thus the average amount of housing space available per inhabitant in Guryev Oblast is only 6.5 square meters, compared to an average figure of 9.1 meters for Kazakhstan. At the beginning of this year, the region had 256,000 square meters of dwelling space in decrepit and emergency homes in which approximately 19,000 individuals were living. The main portion of this housing belonged to the housing fund for petroleum workers in Guryev and in the settlements of Dossor, Iskine, Makat, Sagiz, Kulsary, Karaton and others. Almost all of them appeared at exploited petroleum and gas deposits and were created in the various areas with no consideration being given to the prospects for socio-economic development.

A serious situation has developed in the oblast in the area of public health, especially in Embinskij Rayon. There are 1,000 patients with typhoid fever, tuberculosis, allergic illnesses and diseases of the upper respiratory tract.

An extremely tense ecological situation has developed throughout the region. According to data supplied by USSR Goskomgidromet and the republic's Minzdrav [Ministry of Health], the level of atmospheric contamination in the region of the Tengiz deposit and nearby settlements exceeds the established norms for the maximum permissible concentrations.

The plan for organizing the deposit is characterized by complicated geological conditions in the petroleum and gas-bearing layers and by a high content of hydrogen sulphide in the raw material, developed in the absence of an all-round scientifically sound forecast for the ecological status of the territory. The measures for preventing contamination of the Caspian Sea have not been worked out to satisfaction and the possibility of contaminating substances from the territory of the deposit entering the eastern portion of the sea was not taken into account. The water supply system does not provide for alternative sources, particularly for the supplying of technical water and no provision was made for utilizing the weakly mineralized waters of the Zhanasu deposit or for employing distillation units. Special geological-exploratory studies for determining the capacity properties of the rock, while taking into account the burial of industrial run-off, were not carried out.

The situation with regard to the training of cadres of petroleum workers is arousing considerable concern. At a given period of time, the overall number of individuals working in the oil industry of Kazakhstan amounts to more than 19,000, including 10,000 from other republics. At the same time, according to data supplied by Goskomtrud for the Kazakh SSR, there are 18,000 able-bodied individuals in the oblast who at the present time are not engaged in social production. What is the explanation for this? The republic's Ministry of Education maintains that during the years of the 13th Five-Year Plan, assuming a full workload for its schools, it will be possible to train 15,000 workers, that is, to replace fully the workers from other republics. But this work is being held up by a lack of desire on the part of the leaders and our construction trusts to submit requests for the training of workers or to conclude agreements with the schools. The following facts are unacceptable: the Novouzensk SPTU-3 [agricultural professional-technical school No. 3] and the Guryev SPTU-4 are sending their graduates to Moscow, Volgograd and Saratov oblasts. Thus we are witnessing a run-off of our own personnel which we ourselves need. A correct solution for this problem will constantly be under the control of the appropriate republic organs.

Those who participated in the debates noted that Guryev Oblast has tremendous supplies of petroleum and gas at its disposal. An expert evaluation of the potential and predicted resources has underscored the possibility of increasing the reserves to be brought up from the oblast's depths to several billion tons. The results obtained at the

Tengiz and Korolevo deposits and a preliminary evaluation of other subsalt deposits have advanced western Kazakhstan into the position of being the second best (after western Siberia) petroleum-extracting region in the country.

A new stage from the standpoint of quality in the development of the petroleum industry of Guryev Oblast has commenced. The scales for such development during the 12th, 13th and subsequent five-year plans are defined in the special decrees of the country's party and government for the Pre-Caspian petroleum and gas complex, adopted during the past few years and associated with large volumes of construction-installation work. During the current five-year plan alone, it will be necessary to carry out more than 2 million rubles worth of such work. A number of enterprises of the construction industry and production and supply bases of construction organizations, transport and the municipal economy must be created and placed in operation.

Today it is possible to summarize some of the results of the work carried out in this regard. At the present time, in order to carry out the tasks concerned with the creation of the Tengiz Petroleum and Gas Complex, large-scale labor collectives have been formed, bases for drilling, construction, installation and transport organizations are being erected and priority installations for providing engineering support and municipal-domestic services are being placed in operation.

Work is nearing completion on installations of the initial start-up complex, a gas pipeline and drinking water and technical water lines have been placed in operation, railroad traffic movement has been started, the Kulsary-Karaton-Tengiz highway has been introduced into operations, access roads leading to group measurement units are being built and a number of power supply installations have been turned over for operation.

However, the participants in the meeting noted that a critical analysis of the carrying out of the established program for creating the Tengiz complex has revealed the existence of serious shortcomings and areas of neglect in its implementation. A number of the deposit's important installations are not being introduced into operations on schedule and the schedules for preparing wells for operation and other installations associated with the industry and for the construction of a gas processing plant and a number of nature conservation installations have all been disrupted. Installations of the plant's second and third complete technological lines are being built extremely slowly and the development of similar equipment for the fourth phase is being dragged out. The construction of installations of a housing, socio-domestic and cultural nature is also falling behind.

During the meeting, questions were also raised concerning the development and placements of installations of the petroleum industry and the elimination of old and the organization of public services and amenities for

promising new settlements for the oil workers. The participants in the meeting considered one of the principal tasks confronting the oil workers of Kazakhstan to be that of strengthening geological-exploratory operations, increasing the reserves and creating a stable base for further development. It was noted that at the present time, as a result of work carried out on the territory of Kazakhstan by USSR Minnefteprom, 112 deposits have been opened up, of which number 73 are for petroleum, 24 are for gas condensate purposes and 15 for petroleum and gas condensate purposes, with available reserves of 2.5 billion tons.

The USSR Ministry of Geology is planning to concentrate its efforts on promising areas in Aktyubinsk Oblast and to complete its exploitation of the Akzhar deposit, where subsalt terrigenous deposits have been uncovered and where a flow of low sulphur petroleum with a high output has been obtained. In connection with the creation of a new petroleum-extraction rayon in Kzyl-Orda Oblast at the Kumkol deposit, where the plans call for 1 million tons of petroleum to be extracted in 1990, an increase in exploratory work in this region is being planned.

However, the placing in operation of the deposit is complicated by a number of difficulties which can only have an effect on the economic status of the Mangyshlakneft<sup>\*\*</sup> Association. During the forth quarter of this year alone, the placing in operation of installations of external power supply—LEP [electric power line] Dzhezkazgan - Kumkol—was turned over to USSR Minenergo [Ministry of Power and Electrification]. An alarming situation has developed in connection with the organization of the deposit and the construction of the Kumkol-Karakain oil pipeline, which are being carried out by subunits of USSR Minneftegazstroy.

The attention of those who participated in the meeting was directed to the following disparity. Despite the great potential of the production bases of the "Guryevneftegazgeologiya" Association and the petroleum and gas development from subsalt wells in all areas, the geologists are unable to normally distribute the volumes of drilling operations. There is not an adequate supply of structures prepared for deep drilling. Quite often the drilling must be started at unprepared installations and this tends to lower the already low effectiveness of the geological exploratory work.

The speakers noted that the planned program still does not take into account the work which must be carried out in settlements, the construction of which was carried out back in the 1930's. It was mentioned that this complicated question requires special examination conducted jointly with party and soviet organs of the oblast and republic.

During the 12th Five-Year Plan, the plans called for the placing in operation of 1,850 square meters of housing, 7,400 kindergarten billets, 14,000 school billets, hospitals for 1,200 beds and polyclinics for 1,900 users. In

Guryev, for workers attached to the petroleum industry, the decision was made to carry out the construction of 30,000 square meters of housing annually on a share participation basis. In addition, the "Embanefit" Association must organize housing construction using its own resources on the order of 15,000-20,000 square meters annually. Prior to the end of the current five-year plan, the "Mangyshlakneft" Association must solve the problems concerned with gasification work, the organization of public services and amenities and providing support for installations of the municipal economies of such settlements as Uzen, Tenge, Kzyl-Tyube and Zhetybay and, jointly with the oblispolkom [oblast executive committee], carry out measures for the construction of installations of a socio-cultural nature in these settlements.

But here certain difficulties are expected. From year to year, the "Mangyshlakneft" association plans increases in the housing construction volumes carried out using the economic and individual methods and it uses its own collectives for this purpose. At the same time, the Pre-Caspian Construction Administration of USSR Minsredmash [Ministry of Medium Machine Building] and the Mangyshlakneftgazstroy" Trust plan to pursue a course aimed at reducing their housing construction capabilities in the cities of Shevchenko and Novyy Uzen, because of difficulties that have arisen in connection with solving the housing problem for petroleum workers in these large populated points, with the construction being carried out in accordance with a general plan by a single builder. It is believed that this problem, which is of vital importance to the Mangyshlak petroleum workers, must be resolved in a correct manner with the interested intervention of the oblast and republic leadership.

Work concerned with the creation of a construction industry base is being carried out in the interest of implementing a program of direct construction. In Kulsary, work has commenced in connection with developing a polygon for modular-unit housing construction with a capability of producing 32,000 square meters of housing annually. In 1990, the plans call for the placing in operation of a plant for large-panel housing construction for the "Mobil" Series, with a capability of 140,000 square meters annually and also for the first start-up complex of a plant for reinforced concrete structures with an overall capability of 132,000 square meters.

The USSR Ministry of the Petroleum Industry is participating in the development of a construction industry base at Guryev, where work is being completed on expanding a combine for construction structures and parts to 80,000 square meters and on a joint base for mechanization and other enterprises. Work has been carried out in conjunction with improving the water supply system for the city. During the 13th Five-Year Plan, USSR Minnefteprom will participate in the work of equipping a hospital in Guryev with medical equipment. In the interest of improving sanitary work, an

operating holiday home in Podmoskovye and a sanatorium for 150 patients on the shore of the Black Sea, the capability of which will be raised to 800 patients with the passage of time, have been turned over to the "Tengizneftegaz" Association.

In the interest of ensuring a supply of food products for the petroleum industry workers and their families, the 13th Five-Year Plan includes a program aimed at increasing considerably the production of agricultural products at sovkhozes and the subsidiary farms of enterprises belonging to the branch and located on the territory of Kazakhstan.

The 13th Five-Year Plan calls for the construction in Guryev Oblast of a hog complex for 30,000 head and for a poultry factory with a capability for producing 30 million eggs annually and with a department for the production of powdered eggs. The construction of these installations will be carried out using the resources of the republic's Gosstroy organizations. The "Tengizneftegaz," "Embanefit" and "Mangyshlakneft" associations have been tasked with raising their hothouse areas to 6.5, 3.5 and 6 hectares respectively by 1995 and their vegetable, potato and fruit storage capacities to 11,400, 4,200 and 12,400 tons respectively.

The speakers devoted special attention to the formation of stable collectives, mainly by means of the republic's local labor resources. According to preliminary estimates, in 1995 the number of petroleum workers and members of their families in Kazakhstan will reach 78,100 and 273,300 respectively. During the 13th Five-Year Plan, owing to a sharp increase in the work volumes, it is expected that use will continue to be made of the watchstanding method of work. However, the proportion of workers using this method will decline as solutions are found for the social problems. A great amount of attention will be given to the training of skilled workers at professional-technical schools and training courses throughout the republic. On the whole, approximately 33,000 highly skilled workers will be trained for the petroleum industry during the years of the 13th Five-Year Plan.

The ecological situation in the pre-Caspian region became an object for fixed attention by those who participated in the meeting. It was noted that the nature-conservation work of the petroleum and gas enterprises and associations of USSR Minnefteprom in Kazakhstan is predicated upon the USSR Principles of Water and Land Legislation, the Law Governing the Protection of Atmospheric Air and the normative documents for protecting the environment, with social opinion being taken into account. Air, water, land resources, the animal and plant worlds and man himself taken as a whole are considered to be an object for protection against the anthropogenic workload in regions associated with the prospecting, drilling, extraction and processing of raw materials.

One of the most complicated regions with regard to solving the nature-conservation tasks is the northwestern portion of Kazakhstan. Here, within the borders of the protected shore belt of the Caspian Sea are found the Tengiz and Korolevo deposits, the specifics of which are an irregularly high layer pressure, a high concentration of hydrogen sulphide and the existence of other aggressive and toxic components in the layer fluids. Thus the planning and carrying out of nature-conserving measures require special attention for them.

A chief requirement has to do with the reliability of the well structures, which is achieved by strengthening the shaft using special steel columns for hydrogen sulphide containing mediums and the installation of special non-rusting pipe with tightly sealed threading. Reliability in the opening up of productive layers is achieved by means of special anti-discharge equipment for 700 atmospheres carried out by the "Shefer" and "Kameron" firms. In addition, intra-well cutters of the "Kamko" Firm are installed in the operational columns for ensuring automatic hermetic sealing in the pipe space during emergency situations.

The participants in the meeting noted that the task of creating domestic equipment for developing unique deposits in western Kazakhstan, the solving of which was assigned to Minkhimmash [Ministry of Chemical and Petroleum Machine Building], Minpribor [Ministry of Instrument Making, Automation Equipment and Control Systems] and USSR Minchermet [Ministry of Ferrous Metallurgy], has unfortunately still not been carried out and thus USSR Minnefteprom has been forced to continue purchasing costly imported equipment.

Despite the absence in the country of the non-storehouse drilling method, USSR Minnefteprom, commencing in 1990, will begin the drilling of wells in the Tengiz region, with sludge removal beyond the area of the deposit and its subsequent utilization, the drilling of operational wells using electric drive units and the development of biological recultivation methods and anti-erosion measures.

Nature-conserving measures in the extraction of petroleum are aimed at precluding the possibility of open gushers and disorganized discharges taking place during the petroleum extraction process. At the Tengiz deposit, throughout the entire process extending from a well to a plant, use is made of a hermetically sealed system for petroleum collection, one which eliminates the release of hydrogen sulphide even when carrying out repair and maintenance work. The accepted level of automation eliminates the need for constantly maintaining service personnel at a site. All of the technological installations for drilling or of the site or plant are equipped with sensors for monitoring the presence of hydrogen sulphide, carbon dioxide and fuel gases, sensors which make it possible to uncover in a timely manner the source of gaseous conditions.

Thirty stations for environmental observation and control were located along the perimeter of the zone containing the deposit and the plant. Moreover, the plans called for an automatic signalling system for the petroleum collection in the event the technological regime for the operation of the installations was disrupted. Provision was made for emergency sources for electric power supply.

In view of the fact that along the Caspian Sea, especially in its northern portion, beyond dependence upon the Tengiz deposit, from which petroleum has still not been extracted, an extremely unfavorable ecological situation has developed for sturgeon fish and also in connection with the forecast of a possible increase in the level of the Caspian, the plans call for the construction of dams for protecting the deposit against an excess amount of water in the Caspian, with the inclusion in the protected zone, in addition to the Tengiz deposit, of the territories of the oil industry of Prirva in the south and in the north the deposits of Teren-Uzyuk, Tazhigali, Karaarna, Pribrezhnoye, Pustynnoye and also the settlement of Karaton. At the present time, the technical-economic justification for a dam 146 kilometers in length has been provided by "Soyuzgiprovodkhoz" of USSR Minvodstroy and turned over to USSR Goskomprirod for an ecological appraisal. Owing to the absence in the area of the needed construction materials, the considerable volumes of work to be carried out require not only large funds but also extended periods of time in which to complete this work.

One of the principal elements of the nature conserving measures is the monitoring of the environment, including automatic observations and an instrumental survey of the status of the air and water mediums and land resources. The results of observations by the network of observation stations of USSR Goskomgidromet will serve as the basis for drawing a conclusion as to the degree the environment is affected by the petroleum and gas industry. In all of the associations operating in Kazakhstan, departmental control is being organized over the environment—atmospheric air, ground waters and the level of the Caspian Sea. Moreover, special attention is being given to this problem at the Tengiz deposit.

In the interest of creating a forest-protective zone around the deposit and also for combating soil erosion, an agreement was concluded with the Botanical Garden of the Academy of Sciences of the Kazakh SSR and the "Soyuzgiprovodkhoz" Institute of USSR Minvodstroy.

Given the conditions for restructuring the republic's economy and social sphere, the only correct approach to be employed is that involving a comprehensive and all-round attack upon the problems of the Pre-Caspian region and specifically Guryev Oblast and the Tengiz deposit.

The following participated in the debates over the report: the general director of the "Mangyshlakneft" Association N.U. Bekbosinov, the 1st secretary of the Novouzensk Municipal Party Committee Ye. Kumiskaliyev, the general director of the "Tengizneftegaz" Association V.P. Novikov, a foreman in the Petroleum Extraction Department of "Kulsaryneft" NGDU [Petroleum and Gas Production Administration] M.V. Akmalyayev, deputy chairman of Gosstroy for the Kazakh SSR and chief of the "Tengizneftegazstroy" Planning and Construction Association G.S. Revazov, chief geologist for the "Guryevnettegazgeologiya" Production Geological Association B.M. Kuandykov, chief of the Guryev Aviation Enterprise S. Zharylgasov and director of the Shevchenkov Plastic Plant V.I. Peredereyev.

An appropriate resolution concerning the problem under discussion was adopted during the meeting of the party-economic aktiv.

The following participated in the work of the meeting the 1st secretary of the Central Committee of the Communist Party of Kazakhstan G.V. Kolbin, the deputy chairman of the Kazakh SSR Council of Ministers K.K. Baykenov, the deputy minister of the petroleum industry of the USSR S.M. Topov and the leaders of a number of the republic's ministries and departments.

#### Photo Caption

In the press center of Gosstroy for the Kazakh SSR, several construction organizations were mentioned which are operating today in the west Kazakhstan desert, thus forming the modern city of Kulsary on the site of the former steppe settlement: this includes the "Kulsarypromstroy," "Kulsaryneftstroy," "Tengizneftstroy," "Tengizmonolitstroy" and "Kulsaryotstroy" trusts and others.

A great amount of work has been carried out here for several years—not only individual homes, but even entire microregions have sprung up before one's eyes and the construction of new industrial installations for petrochemical production operations in Tengiz is being carried out. On the work helmet of the chief of the Petroleum and Gas Extraction Department of NGDU of the "Tengizneft" Production Association and "Tengizneftegaz," Tulegen of BISA-LIYeVA is written simply: "Work."

"This is why we are here" stated Tulegen, "We came here not just for a year or two of work but, if you please, for our entire lives. Thus we are interested in our builders performing excellent work. Much is dependent upon them: the quality of our housing and the quality of the complicated industrial installations of the Tengiz petroleum and gas complex."

In the second picture, an APN [Novosti Press Agency] correspondent, at the request of the editorial board, reveals a corner of the Planning Department of the "Tengizneftstroy" Trust. New plans are being discussed by architects Irina Briuk and Vladimir Peshkov.

#### Petroleum, Gas Construction Ministry Restructuring Critiqued

18220147 Moscow STROITELSTVO /TRUBOPROVODOV in Russian No 5, May 89 pp 8-11

[Interview with Nikolay Ivanovich Kurbatov, chief, Main Scientific and Technical Administration, Ministry of Construction of Petroleum and Gas Industry Enterprises, by L.P. Klyuchnikova: "New Tasks for the Main Scientific and Technical Administration"]

[Text] In May 1988, for the purpose of effectively utilizing the new economic-management methods and progressive organizational structure, a general scheme was approved for administering construction in the petroleum and gas industry; this scheme provides for the conversion to a two-shift system. A constituent part of the scheme is structuring the central apparatus of the ministry in accordance with the functional principle.

Now, one year later, when the period of reorganization and emergence has already elapsed, we can analyze to what extent the above-mentioned restructuring has facilitated the transformation of this ministry into a truly scientific and technical sectorial staff whose activity is directed at further increasing the effectiveness of construction in the petroleum and gas industry.

With the interview appearing below, this journal's editor begins publication of materials concerning the principal subdivisions of the apparatus of the Ministry of Construction of Petroleum and Gas Industry Enterprises.

[L.P. Klyuchnikova] Nikolay Ivanovich, please tell us first about the goal pursued by the structural transformations within the system of your administration.

[N.I. Kurbatov] The structural changes in the Main Scientific and Technical Administration, just as in the central apparatus of the ministry as a whole, were carried out simultaneously with the organizational restructuring of the entire system of this sector's administration. Moreover, the following two principal problems were solved: reducing the number of administrative organs at all levels and creating a new administrative mechanism which corresponds to the economic management methods.

The Structure of the Main Scientific and Technical Administration was, first of all, brought into line with the new system of administering scientific and technical progress and the new principles of its interaction with production.

[L.P. Klyuchnikova] How have these changes been expressed in specific terms?

[N.I. Kurbatov] Those divisions and services which used to perform work on individual phases of scientific and technical progress were eliminated. The Administration has come to include a number of previously independent divisions and divisions of the central apparatus. Based on these structures, we have set up integrated divisions whose functions coincide with the principal directions of the sector's scientific and technical policy, as well as the targeted programs and profile of the scientific-research institutes. Each division is now responsible for the scientific and technical level within a specific line of construction or construction process.

Our administration's skills composition has been strengthened. Now employed here are predominantly chief specialists, the division chiefs are at the same time deputy chiefs of the administration.

[L.P. Klyuchnikova] This administration was formerly named the Main Technical Administration; now its is the Main Scientific and Technical Administration. What is it which brought about the name change?

[N.I. Kurbatov] The new name corresponds more fully to our tasks, principal among which is administering this sector's quite high-capacity scientific complex.

At the same time this name change should also be regarded as the assigning of a qualitatively new task—specifically shifting the center of gravity from engineering work to a quest for fundamentally new solutions in construction equipment and technology.

[L.P. Klyuchnikova] Just what is this sector's scientific potential at present?

[N.I. Kurbatov] If by the beginning of the 12th Five-Year Plan there were nine institutes and design bureaus directly subordinate to the ministry (seven of them were located in Moscow), then, beginning on 1 January 1989, there have been 34 scientific-research, planning, and design organizations functioning in this sector: 28 of them were transferred to construction-industry associations or set up within them. There are six pilot scientific-research and planning institutes which have been directly subordinated to the ministry (four organizations have remained in Moscow).

Over the course of three years of the five-year plan the volume of scientific-research and planning work performed in this sector increased by a factor of 3.7, while that of scientific work went up by a factor of 1.7. The entire increase in scientific-research work was achieved by means of a rise in labor productivity.

[L.P. Klyuchnikova] As chief of the Main Scientific and Technical Administration, what do you view as its qualitatively new tasks?

[N.I. Kurbatov] I view the administration's new tasks primarily as a matter of upgrading the quality of the technical solutions, in the high-priority development of the most effective solutions, and in keying science to the end results of this sector's activity. Of great importance is re-outfitting the scientific and experimental base of the institutes and, in the first place, computerizing research studies and design operations, without which it is impossible to count on serious economic and optimization analyses, as well as a sharp curtailment in the cycle of creating new equipment.

[L.P. Klyuchnikova] What are the possibilities, and what fundamental changes in the technology of constructing petroleum and gas facilities have already seemed to become traditional?

[N.I. Kurbatov] In accordance with the evaluation which has evolved, the following four types of changes are possible: setting up new structures and expanding the fields of their application; utilizing new principles of action; developing new structural components and materials; calculating and optimizing parameters. The first line can provide an effect amounting to a factor of 100 or 1000, the second—by a factor of 10, the third—a doubling, and the fourth—by from 2 to 10 percent.

The conclusions drawn from this evaluation do not mean that we must engage solely in the first two types of changes, but it is undoubtedly the case that they also need to be engaged in improving the existing equipment. Such a task also stems from the basic directions of the country's economic and social development, keying the sectors to reduce by the year 2000 the metal consumption of the national income by a factor of 2, energy consumption by a factor of 1.6, etc.

[L.P. Klyuchnikova] How is the administration carrying out the direction of scientific, planning-and-designing, and production organizations?

[N.I. Kurbatov] This sector is implementing the program-targeted method of administering [managing] scientific and technical progress. This method includes the following: a conception of scientific and technical progress for a long-term period (up to the year 2005); the sectorial, targeted, comprehensive programs (OTsKP) for the five-year plan (Truboprovod, Novyye mashiny, Novyye materialy, Industrializatsiya, Upravleniye, Sotsialnoye razvitiye); and annual basic tasks of the plan for scientific and technical development. Moreover, the ministry's Scientific and Technical Council annually reviews and approves the Basic Directions of the Topical Plan for each pilot institute.

Monitoring and organizing the implementation of these programs are carried out by coordinating councils, which are headed by deputy ministers. Formulating the programs, interrelating them, financing and analytical work is performed by the Main Scientific and Technical Administration.

[L.P. Klyuchnikova] Would you kindly dwell for awhile on how the "Science—Production" chain began to be activated?

[N.I. Kurbatov] Within the "Research—Development—Assimilation—Production" cycle an enormous role is played by the sectorial, targeted, comprehensive programs for scientific and technical development [OTsKP]. The principal task of OTsKP is to key things onto the end result, i.e., the participation of all interested organizations in solving the key problems of the sector's scientific and technical development with regard to the basic directions (from scientific research to incorporation into production). This goal is also being facilitated by the restructuring being carried out in the sector. The planning, design, and technological institutes (PKTI), established in all construction associations, based on the Orgtekhnstroy Trusts, have been called upon to mobilize the scientific and technical potential of the labor collectives, to develop the ties between scientific-research organizations, associations, and trusts.

With regard to the economic and management factors, the activity of the PKTI's since 1989 has been organically linked with the activities of the associations. The number of the PKTI's is included in the total number of the association and has a direct influence here on development and labor productivity.

The associations (construction and industrial) having institutes included in them are becoming de facto scientific-production organizations, and this too must facilitate the effective and timely utilization of scientific and technical achievements.

Thus, expanding the rights and potentials of institutes, as well as their economic ties with production, constitute the foundation of activating their work on accelerating the incorporation of everything new into production.

At the same time, it should be noted that the program-targeted method of administration, which is at the stage of being improved, has not yet attained its final, finished form. It has not yet provided uninterrupted planning for the operational cycle "Research—Development—Assimilation—Production." A significant portion of institutes' scientific and technical developments does not comprise finished products; and, as a result, it cannot be utilized in production and "lies on the shelf."

[L.P. Klyuchnikova] And just what kind of role is being allotted to the economic methods of administering scientific and technical progress?

[N.I. Kurbatov] Last year was marked by a turning from administrative methods of management to economic methods. This was expressed in the new principles of formulating plans for scientific and technical development in the associations and in the organizations subordinate to them, on a more profound and detailed economic evaluation of the scientific and technical

decisions being adopted, as well as their keying on the attainment of a materialized effect in the sector. Production organizations now have considerably more independence in making decisions in the process of working out plans for scientific and technical development, in choosing the methods and means for raising the organizational-technical level of production.

A large role in developing economic methods of administration is being allocated to the incorporation of cost accounting. As you know, in 1988 we began to convert the sector's scientific organizations to full cost accounting and self-financing; this required a great deal of preparatory work, in particular, on creating economic norms, as well as norms of payments, deductions, and contributions.

[L.P. Kluchnikova] Just how did the conversion of the scientific organizations to cost accounting influence their interrelations with the production sub-divisions and the results of the activities of the institutes themselves?

[N.I. Kurbatov] Not enough time has elapsed since the beginning of the sectorial science to cost accounting and self-financing so as to be able to make any large generalizations and conclusions. However, the results of the work done by the four institutes in 1988 attest to positive trends in their economic activity as a whole. In a practical sense, we made the transition from financing institutes *in toto* to financing specific scientific and technical developments.

The principal portion of financial means (about 70 percent) for scientific-research and experimental-design work (NIOKR) has been transferred to the disposal of the construction and industrial associations. This has untied the hands of the production people and immediately led to changes in the system of interrelations between them and the scientific staff members. Ties were activated between the institutes and the construction organizations and enterprises. The change in the system of financing NIOKR has led to an intensification in the demands of the production people on the scientific and technical level, quality, and deadlines for completing developments proposed by the institutes. There are instances of abrogating contracts for developing scientific and technical products at the initiative of construction associations.

The NIOKR production costs have been reduced by means of economizing on the provisional and continuing part of overhead expenditures resulting from the increase in the proportional share of the volume of work performed by fewer employees. The growth rate of labor productivity has exceeded the growth rate of wages.

[L.P. Klyuchnikova] To what extent, in your opinion, have cost-accounting relations influenced the acceleration of incorporating scientific and technical achievements into production?

[N.I. Kurbatov] In my opinion, we still cannot say that cost-accounting relations have sharply changed the conditions for accelerating the introduction of scientific and technical achievements into practical work. The receptivity of the production sub-divisions to innovations has still remained at the previous level. Production people are interested in concluding agreements for relatively small projects, ensuring a modest-sized but quick profit. Unfortunately, scientific organizations are also interested in this kind of thing. It is also advantageous for them to have small-scale projects which do not require lengthy time periods, projects which could bring in a "quick" profit. Such a situation reduces the motivation of institutes to carry out sectorial projects of a long-term nature, the type of work from which the institutes do not obtain those "extra earnings" which are the case when working with the production organizations.

Moreover, it is difficult to assert that the assets for NIOKR being formed in the organizations' funds will be mandatorily channeled into financing fundamentally new lines of science, equipment, and technology, ensuring a sharp rise in future production efficiency. The new procedure for financing NIOKR cannot automatically bring builders to the need to engage in carrying out major scientific and technical developments.

[L.P. Klyuchnikova] And what other complications have arisen in operating under the new conditions of economic management?

[N.I. Kurbatov] Many reprimands have been brought about by the practice of forming contractual prices for creating (transmitting) scientific and technical products. The institutes have discovered a method for obtaining unearned money: they have begun to trade for developments which they have completed in years past and for which the ministry has already paid them out of the state budget. Now such developments in the form of goods are offered to construction or other organizations.

In general, it turns out that the construction organizations finance not the new equipment but merely the process of creating it, and this does not facilitate an upgrading of the quality or an increase in the efficiency of the developments.

Nor has intra-production cost accounting "begun to speak" in full voice at a number of organizations, and without this, genuine cost accounting is impossible.

Too slow a rate of progress is being made in putting into practice projects on a competitive basis; there are many shortcomings in organizing the advertising and propaganda of scientific and technical developments.

[L.P. Klyuchnikova] What ways do you see for overcoming the negative trends indicated above, tendencies which are causing serious concern?

[N.I. Kurbatov] Above all, we obviously need a new approach to defining scientific output, which must not be blueprints or experiental models but implemented transformations of production; we also need a rise in its technical-economic level. For this purpose, we must create or strengthen the economic services both in the institutes as well as in the construction associations and trusts capable of performing technical and economic calculations, and the justification of introducing each development under specific conditions, and, based on these indicators, to formulate contractual prices. Thus, exceptional importance is assumed by the technical and economic competence and "literacy" of the leading officials of the councils of labor collectives, who make the decisions on the technical development of the organizations.

[L.P. Klyuchnikova] What has the practical work of the Main Scientific and Technical Administration shown recently? What conclusions can be drawn?

[N.I. Kurbatov] The system adopted in the ministry for administering scientific and technical progress has intensified the technical orientation of the activity of all the services of the central apparatus, as well as the construction sub-divisions, has allowed our administration to accumulate the sector's scientific and technical potential and channel it into the main lines of progress. At the present-day stage the adopted system seems the most correct one.

Nevertheless, it requires serious further work. The attempt to encompass the entire list of problems as fully as possible has extremely increased the load on the programs, and coordinating them has become unbearably difficult. It is obvious that the targeted programs should include only general sectorial problems, financed from centralized funds.

In my opinion, we must revise the volumes of the centralized funds; their magnitude should not be rigidly regulated but more flexibly determined, proceeding from the actual needs during the period being planned.

I think that it is fundamentally incorrect to normatively restrict production organizations in expending funds on science and technology. Such restrictions do not facilitate the increase in production's science "consumption," the indicator in which we lag hopelessly behind the leading Western countries. Only financial possibilities and the privileged conditions for using them will allow us to correct the situation in this matter which is of fundamentally important for the future.

## ELECTRIC POWER GENERATION

### Specialized Bank Needed for Electric Power Sector

18220133 Moscow ENERGETIK in Russian  
No. 5 May 89 pp. 5-6

[Article by Ye A. Minasbekov and A.A. Pyanov, engineers; A.M. Sheftel, candidate of economic sciences; "On Organizing an Electric Power Industry Bank"]

[Text] Under the conditions whereby the enterprises, associations, and organizations of the USSR Ministry of Power and Electrification are converting to full cost accounting a special role is assumed by the effective operation of the finance-credit mechanism. The operating experience of the first few associations which have converted to working under the new conditions has shown that the results of their activity depend, to a considerable degree, on how effectively the functioning finance-credit mechanism corresponds to the organizational-economic conditions of the production-management activities engaged in by this sector's enterprises. Data from analysis support the following conclusion: at the present time many difficulties in increasing the operational efficiency of enterprises and organizations under the USSR Ministry of Power and Electrification are caused by the lack of correspondence between the overall system of financing and the crediting organization-technical, as well as the economic features of production in this sector.

Thus, for example, the associations and organizations under the USSR Ministry of Power and Electrification, along with producing, transmitting, and selling power, ensure the execution of significant amounts of construction and installation operations, as well as the production of a large list of industrial products. If, moreover, we take into account the fact that this sector also performs substantial amounts of planning and scientific-research work, we come to the obvious conclusion that, as regards the conditions of financing, this sector constitutes a complicated and mutually interrelated complex of enterprises and organizations which have heterogeneous conditions of obtaining and expending financial resources.

The indicated conditions vary not only within the sector but, to a substantial degree, do not coincide with the conditions in many other sectors of the national economy. Thus, for example, the absence of storing up electric power output and the high demands for the provision of a reliable and uninterrupted power supply to customers determine the necessity of diverting from economic circulation considerable amounts of material resources (and, in the first place, fuel) into reserves of commodity-material valuables, formed in order to provide for the needs indicated above. As a result, a substantial portion of the financial resources is excluded from circulation, and between the processes of producing, summing and paying for materials being delivered there is a tangible imbalance in volumes as well as in time.

In order to eliminate the negative consequences of this imbalance, we must utilize finance-credit levers. However, the existing system of financing basic production which is based upon the financial and credit resources of USSR Promstroybank [Bank for Industrial Construction], is keyed on the general, standard conditions of production and is not capable of taking into account, to the extent necessary, the particular features of electric power engineering.

Seasonal accumulation of fuel reserves is among the important characteristics in the work of electric power associations. However, when crediting electric power enterprises by the aggregate of their material reserves and production expenditures, this circumstance is not paid attention to in many cases. It is necessary to ensure conditions under which the electric power associations would have the opportunity to obtain credit resources for accounts with their fuel suppliers above the maximum level of commodity-material valuables in those instances when the above-indicated excess appears as a result of accumulating seasonal reserve supplies.

There are serious difficulties connected with the ineffectiveness of the system of short-term crediting of electric power enterprises and associations with regard to turnover. As a rule, during the first 10-day period of each month the greatest financial tension piles up, since such as the funds coming in are insufficient for the plan accounts. It is during this period that the largest payments are made—the turnover tax, the payment for the production funds, amounts due to the USSR Promstroybank, accounts for fuel are paid up, and funds are transferred for the workers' and office employees' wage accounts, etc. As a result, during the first 10-day period if the receipt of funds for current accounts comprise 15-20 percent of their monthly amount, the payment is disbursed reach 30-35 percent of the monthly amount of funds being spent. It is completely obvious that the difficulties being experienced by the electric power associations are connected with the specifics of selling their products and with the features of their monetary circulation.

Nevertheless, the banking institutions, guided by the regulations on crediting material reserves and production expenditures which have been in effect since January 1988, do not take into consideration a single one of the above-listed features. Therefore we need a financial organ which would fully take into account the conditions of producing and selling electric power output.

In contrast to most of the other sectors under the USSR Ministry of Power and Electrification (among which enterprises producing the principal types of output—electric power and heat), there are a significant number of organizations and enterprises which are producing fixed capital. Under these conditions the infrastructures

among the sectorial enterprises engaged in economic functions under diverse financial-economic conditions are sufficiently complex that they are directly reflected in their financial position.

Thus, for example, the total sum of overdue payments amounts, for the sector as a whole, to more than 500 million rubles, and most of this is intra-ministerial. It is natural that one non-payment engenders a chain of non-payments extending through mutually interdependent organizations and enterprises, which is manifested with particular clarity under the conditions of electric power engineering, where enterprises and associations have extensive and ramified production-management ties.

It should be noted that the problem consists not merely of eliminating overdue indebtedness, but also of restoring health to the financial status of individual enterprises having non-payment problems (the damage which this sector bears in the form of paying financial penalties and fines amounts to scores of millions of rubles annually, i.e., it is comparable to the amount of above-plan profits). It seems that this problem could be solved by means of attracting commercial credit.

Furthermore, in electric power engineering, where each power system conducts accounts for electric power and heat being supplied with thousands of industrial customers and tens and even hundreds of thousands of household customers, the introduction of special banks substantially slows down the receipt of money for current accounts (by as much as 10 days instead of 3-5 days) and, as a consequence, worsens the financial status of the electric power systems because of the non-fulfillment of the plan for sales and the increase of subscriber indebtedness.

The employees of the specialized banks, since they do not know the specifics of this sector's production technology or its economics, do not possess reliable information as to the operational efficiency of the enterprises and associations, which can be verified only via the overall production organization and other interrelated technological processes. It is often the case that amounts of credit are issued in sums which considerably exceed the amounts of the organization's own working capital, but this does not guarantee their return. Hence the growth of indebtedness on loans and the freezing of credit resources.

The facts listed above allow us to draw the conclusion that the structural reorganization which has been performed on the banking system has not yielded effective results when applied to the conditions of electric power engineering. Because of the organizational-economic features of electric power engineering, many problems involved with improving the finance-credit mechanism could be solved by setting up a specialized sectorial bank—an Electric Power Industry Bank.

What should be the tasks of such an organ and its functions as applied to the activities of electric power enterprises and organizations?

The principal goal of setting up the Energoprombank [Electric Power Industry Bank] is to create the necessary conditions for optimally utilizing the temporarily free funds of enterprises, organizations, and institutions under the system of the USSR Ministry of Power and Electrification for the purpose of providing stability of the financial status, as well as developing and increasing the efficiency of electric power and industrial enterprises, and construction organizations.

This bank should be set up on a shareholding basis, and its foundation must consist of commercial activity. As founding charter members of the bank it would be feasible to involve, along with the USSR Ministry of Power and Electrification, a number of large electric power, industrial, and construction associations, enterprises and organizations which have the necessary funds at their disposal.

The Energoprombank could have the following resources: the temporarily free monetary assets and funds for providing economic incentives to this sector's enterprises, associations, and organizations; the temporarily free assets of the centralized fund for developing production, science and technology, and reserves of the ministry; the assets of specialized and commercial banks, the assets of enterprises, associations, and organizations of related sectors, as well as cooperatives; private assets of citizens, in the first place, those of the sector's own employees.

The foundation of the bank's activity would consist of the shareholders' voluntary participation in forming its resources and the active study of the possibilities of the effective investment of funds in current production, construction, and modernization of certain facilities, etc. The commercial nature of the bank's activity would determine the conditions of its administration: general direction would be exercised by a meeting of shareholders, and during the intervals between them—by a bank council to be elected by the meeting from among the shareholding members.

The Energoprombank Council would form a board which, by virtue of the powers vested in it, would organize the current activity of the Energoprombank.

Proceeding from the fact that the Energoprombank would have to organize its own work in the zones being operated in by the territorial and production-type electric power associations, it seems possible to have the following two variant organizations for organizing finance-credit services to the shareholders:

- via branches (affiliates) of the Energoprombank, to be created, as a rule, in cities under Union or republic-level administration;

— via branches and offices of specialized banks interrelations with which would be organized by the Energoprombank on a contractual basis.

A distinctive feature of a sectorial bank would be the use in its activity of a single principle for extending credit—the use of borrowed assets on a fee-paying basis. In other words, instead of granting credit for a specific line (reserve supplies, expenses, wages, etc.) a new purpose would appear—satisfying the need for credit resources of a loan-consignee on principles of payability and reimbursability.

In this connection, it is important to find the conditions of economic motivation which would stimulate the sectorial enterprises which possess financial resources to place them in the Energoprombank and the organizations of loan-consignees to turn to this bank for help. The solution of this problem will be quite complicated, inasmuch as the payments of interest of the holders of assets by means of the payment of credits by their consignees would be conducted under conditions of competition with other banks and, in the first place, from the USSR Promstroybank. Under these conditions the choice of the interest rates for the assets to be attracted and the credit to be granted must be economically justified.

It seems feasible to differentiate the interest rates for the credit to be granted depending upon the length of time during which the credit resources are to be "tied up," the degree of risk involved in the measures for which the credit is being issued, on the solvency of the loan-consignees, etc. In our opinion, for granting short-term credit, the interest rate should be less than that of the specialized banks and lower than that charged for granting long-term credit or for extending credit for innovative measures. In this connection, the solvency of the loan-consignee should serve as the sole criterion for granting credit.

The commercial nature of the Energoprombank's activity determines the need to use non-traditional forms of commercial credit. Thus, for example, the Energoprombank would assume for itself the financial accounting between the TEO [Fuel and Energy Division] and the ODU [Dispatch-Control Unit][?], between adjacent TEO's and the USSR Ministry of Power and Electrification, etc.

Of particular importance for the Energoprombank performing the functions of the sector's unitary sole account sector could be acquired in case new rates are introduced for electric power and heat under which about 50 percent of the electric power systems would be operating at a loss.

For production-type, electric power associations operating under complex, unstable conditions, the Energoprombank could assume the functions of a creditor managing accounts with the state budget and with the USSR Ministry of Power and Electrification.

In managing reciprocal accounts between electric power enterprises and organizations, attention should be paid to the Energoprombank's activity as guarantor of the reciprocal obligations of deliveries and payments for them, and, in case of a violation of the declared obligations—as a collector of fines, financial penalties, and forfeits.

It can be recognized as fully effective and corresponding to the Energoprombank's tasks to have its commercial activity include buying up and selling debts from clients (non-payors), as well as to buy up obligations with regard to paying for products delivered.

Together with the granting of commercial credit, the Energoprombank could assume for itself the function of holder of the insurance fund the assets of which would be used for making up any shortage in the profits of electric power systems due to a worsening of natural-climate or other conditions. On the one hand, this would make it possible to increase the insurance fund by means of putting its funds into circulation, and, on the other hand, would ensure the immediate transfer of assets to the electric power systems, upon the orders from the ministry.

Proceeding from the organizational-economic features of electric power engineering, it would be fully effective and commercially justified to recognize the Energoprombank's factoring [agent-type] operations, including that of buying up fine penalties.

Taking into consideration the solution of social problems, the Energoprombank would take part in granting credit for the expansion of consumer-goods production and for rendering paid services to the population in this sector, as well in making loans to the sector's employees for their personal needs.

The use of this bank's resources for financing high-priority and economically profitable scientific lines of activity would be commercially justified.

Thus, the creation of the Energoprombank must facilitate the restoration of health to the financial status of enterprises, associations, and organizations in this sector, as well as the balance between the plan for economic and social development and budget for this sector, the increase of production efficiency, the introduction of new forms for organizing cost accounting based on expanding economic independence and increasing the responsibility of enterprises, associations, and organizations for the results of their activities.

## TECHNOLOGY ACQUISITION, ASSIMILATION, COOPERATION

### Review of Bulgarian Electronics Exhibit *18250179 Moscow SOVETSKAYA GAZETA INDUSTRIYA in Russian 16 Jun 89 p 3*

[Article by N. Palkina: "Electronic Phantasmagoria: A Report From the Exhibit 'Bulgaria Today and Tomorrow Commemorating the 45th Anniversary of the Socialist Revolution"]

[Text] The exhibit amazes and even stuns you with its abundance of examples of computer, organizational and commutation technology. It is as if the visitor finds himself in an electronic city, surrounded by various computer complexes, large, small, and micro-computers with lighted display "windows", radiotechnical apparatus, communications technology, and household appliances.

The reality of all this electronic phantasmagoria becomes even more irrefutable when you learn that today Bulgaria is one of the world leaders in the per capita production of electronics. It is no accident that the electronic computer and organizational technology occupies an ever greater place in national export. In a year, Bulgaria exports these products valued at a sum exceeding 2.5 billion currency levs.

How much creative labor, talent and love have the people put into the development of their homeland to change it from an agricultural country to a developed industrial-agrarian state. Today electronics, machine building and chemistry define the industrial face of the country. This is convincingly demonstrated also by the structure of the exhibit where such divisions as "Science," "Electronization," "Integrated mechanization and automation," "New materials and technological equipment," and "All for man" set the tone of the exposition.

The catalog of export products in Bulgarian machine building is ever expanding. There are new models of metal processing machine tools with digital programmed control, processing centers, technological moduli, industrial robots, and laser devices.

The products of the Soviet-Bulgarian joint productions "Ivanovo ZMM" (metal cutting machine plant, Sofia) and "Krasnyy proletariy"- "Beroye" (city of Stara Zagora) attract particular attention.

"In the export products list of our combine," says the chief specialist of the farming association, 'Integrated Automation of Technological Processes,' Aleksandr Prodanski, "the USSR occupies a leading place. The company is interested in expanding export to your country on the basis of new technological resolutions of current high productivity machine tools."

"Visitors express a great interest in our part of the exposition," he emphasized. "It is only a shame that there are few specialists among them. For ourselves we explain this by the fact that the first 8 days of our work coincided with the specialized international exhibit 'Metalloobrabotka' [Metal Processing]. But there is still time until June 20—the closing of the exhibit."

Many of the joint developments and systems developed in Bulgaria are widely used in our country. The "Ikar" microprocessor system exhibited in the pavilion is intended for controlling technological processes in the chemical, metallurgical, food and other sectors of industry. When I stopped to look at the display, a specialist told me not without a certain pride, that "Ikar" is already being used in the city of Voskresensk near Moscow, and is currently being introduced at the cement plant in Krylov Rog and at the phosphorus fertilizer combine in Samarkand.

However, in our delight at the innovations in electronic technology and machine building, we cannot forget that Bulgaria is a country of high quality food products, many of which have successfully secured themselves on the world market. The PRB is in second place in the export of food products. Bulgarian canned goods, wines, and cigarettes are known worldwide. They are delivered to 70 countries of the world. Every year, over 160 million liters of dessert wines are exported, as well as 170,000 tons of canned vegetables, over 75,000 tons of cigarettes, and around 80,000 tons of tobacco.

The bright, cheerful colors attract the visitors to the displays with their fashionable clothing, linens, footwear, and leather goods. Also displayed here is furniture, household electrical appliances, and glassware. Industrial consumer goods are also familiar to Soviet consumers as well as to consumers in other countries. The export of these goods reaches the sum of almost 1.5 million currency levs annually.

"Considering the new conditions of economic management and foreign economic relations which are being formed in our countries," said PRB Minister of Foreign Economic Relations Andrey Lukanov at the opening of the exhibit, "we would like to view this trade-industrial exhibit not only as a representative measure, but also as a forum for business contacts and negotiations with our Soviet partners."

The exhibition is being held at the VDNKh (Exhibit of USSR National Economic Achievements).

## AUTOMATION, AUTOMATED SYSTEMS

### Western Experience with Flexible Automation Systems Assessed

*18230049 Moscow EKONOMICHESKAYA GAZETA in Russian No 20, May 89 p 21*

[Article by A. Brykin, scientific associate, USSR VNIKI MVES [All-Union Scientific Research Institute for Cybernetics, Ministry of Foreign Economics Relations: "Flexible Automation and Competitiveness"]]

[Text] Although the process of flexible automation has

turned out to be more complex and expensive than had been previously assumed, the leading industrial companies of the Western countries are more and more confidently evaluating it as a strategic guarantee of successful activity. In the opinion of many foreign specialists, the products being turned out by companies incapable of carrying out flexible automation at their enterprises will become substantially less competitive during the coming decade.

Development of flexible automation in the Western countries is carried out with the active assistance of the state. The broadest complex of measures is applied in Japan. During the current decade the FRG implemented a major state program whose basic goal was to stimulate the process of flexible automation at small and medium-sized West German machine-building enterprises for the purpose of increasing the competitiveness of their products. There is an intensive expansion of international competition in the field of international cooperation in the field of flexible automation, particularly within the framework of the Eureka program.

According to data furnished by the American company Dataquest, during the years 1987-1991, sales of the means of flexible automation in the capitalist world will increase from 41.7 billion dollars to 63.3 billion dollars, broken down as follows: in North America—from 17.8 to 25.4, in the Asia countries—from 13.8 to 22.7, and in Western Europe—from 7.6 to 10.6 billion dollars. Within the total sales there will be a reduction in the proportion of equipment and computers produced and an increase in the proportion of software programs and local communications networks.

#### Japan's Priority

Japanese firms frequently obtain a more significant economic effect from flexible automation than their American competitors. Thus, for example, the pilot enterprise of the Mazda firm in Hiroshima manufactures four completely different models of motor vehicles, whereas its counterparts in producing American and Western European motor vehicles turn out one or two models.

The higher results obtained by the Japanese companies are caused, in the first place, by their comprehensive approach to flexible automation. The latter is carried out parallel with improvement in the production process, with debugging the system of peripheral equipment for the automated assembly, and by extremely careful training of the personnel. In the second place, Japanese firms concentrate on relatively simple but highly reliable equipment. For example, the Toyota firm has the following basic requirements for its automated systems: maximum reliability a high technological flexibility of the equipment at an average level of automation.

The only area in flexible automation in which the Japanese producers lag seriously behind their American competitors is in the scale of utilizing computers in industry. However, the attempt by the Japanese companies to simplify their technologies as much as possible has facilitated a sharp reduction of the need to process data, to reduce overhead expenditures, and optimize the entire production process.

At the same time, for most American firms the principal means of increasing production efficiency based on flexible automation consists of computerization and expansion of the use of automated systems for assembling and processing data. This leads to a complication of the production process and an increase in overhead expenses.

#### The Human Factor and Recovery

Until quite recently, most specialists adhered to the opinion that flexible automation would lead to a reduction of the role played by human beings in the production process. Nowadays the prevalent viewpoint is that the importance of the human factor is increasing. Many experts consider that any, even the best technical and organizational solutions in the field of flexible automation will suffer failure if they do not take into account the possibilities of the human individual.

More so than in the United States and the Western European countries, the economic effect derived from using equipment with ChPU [numerical program control] in Japan is conditioned, to a large extent, by the high degree of skills of the personnel employed in Japanese firms. Thus, for example, two out of every five Japanese operators who service machine tools using ChPU have a higher education, whereas in American companies this indicator is only one-fifth of its Japanese equivalent. By the year 2000, in connection with the introduction of new technologies, including the means of flexible automation, 75 percent of those persons now employed in the U.S. manufacturing industry will need to undergo retraining. As a result, the expenditures for this purpose during the years 1989-1997 must increase from 6 to more than 14 billion dollars.

In recent years intensification of attention paid to training and retraining personnel has characterized all the leading American and Western European motor-vehicle companies. At one of the most up-to-date plants of the Fiat firm in Casino, where the assembly of motor vehicles is 55 percent carried out with the aid of robots, every worker has undergone a 200-day course of instruction.

A troublesome problem for the development of flexible automation is, on the one hand, the need for large investments, and, on the other hand, the complexity of their recovery. Most firms, particularly in the United States, use the traditional methods of calculating the pay-off period of investments as a result of reducing the

number of employees and economizing on wages. However, in the opinion of many foreign specialists, these methods are ill-suited for evaluating the investments in flexible automation, and their application has substantially limited the implementation of increasing the competitiveness of industrial products.

In the first place, within the total outlays spent on producing items of the manufacturing industry, there occurs a lowering of the proportion spent on manpower. Whereas during the mid-1960's, when the capitalist countries were beginning to introduce computers into industry, 40-50 percent of production costs were accounted for by wages, nowadays this indicator consists of 10-20 percent.

In the second place, the traditional methods utterly fail to take into account the consequences of flexible automation for the firm's activity as a whole. In judging the effectiveness of the corresponding investments, we must proceed not from the economizing on wages but on how successfully we solve the comprehensive problem of providing a steadily high competitive level of the product during the course of a lengthy period of time. The principal advantage consists in shortening the time required to get new items on the market and increasing the flexibility of the production process, rather than reducing the number of employees or the possibility of working a third shift with a "skeleton force" of human beings.

#### **Reducing Outlays plus Quality Operational Efficiency**

Industrial companies in the West consider it an important task to lower production costs and product prices in order to increase the competitiveness of these products. In order to do this, for example, the American company Whirlpool, a major producer of household appliances, during the current decade made the largest investment in its history in modernizing, based on flexible automation, its Ohio plant for producing washing machines. As a result, production costs and prices have been lowered, quality has been improved, and sales have increased by 80 percent during the years 1983-1987.

The IBM company, after modernizing its enterprise in Lexington for producing typewriters and printers, proceeded to market the Willwriter machines at a price of 795 dollars per unit, whereas the price of the previous model had been 995 dollars. The Electrolux company, after re-equipping its enterprise in Virginia, reduced the price of its vacuum cleaners from 599 to 299 dollars. The production process at the enterprises of both firms is characterized by a high degree of technological flexibility. Thus, in Lexington 20 models of typewriters and printers are assembled in an arbitrary sequence. Both firms have made serious changes in the designs of their products. The vacuum cleaner, for example, is not made 95 percent of plastic, whereas formerly it was made entirely of metal.

One of the principal incentives for introducing flexible automation in the Western countries is to improve product quality. The John Deere company, as a result of modernizing its plant in Virginia, cut in half its expenditures for the guaranteed repairs on lawnmowers and garden tractors, even though the warranty period was doubled, and the prices remained unchanged. Automation of General Electric's plant in Louisville, Kentucky for producing dishwashers has allowed this plant to reduce its losses from defects by 40 percent, and expenditures for repairing these machines during the process of operation—by 50 percent. As a result, the pay-off period for outlays on automation proved to be significantly less than originally calculated.

Under the conditions of accelerated obsolescence of the products in question, the industrial companies of the Western countries are seeking ways to more effectively react to the changing demand. Of interest in this regard is the enterprise of the Japanese firm Fanuk, which went into operation during the mid-1980's. Here they can manufacture servomotors with either d.c. or a.c.. Moreover, the transition to a new product does not require any basic retooling. In case there is a reduction of demand for servomotors, this enterprise can quickly, without any special outlays and while retaining its former level of labor productivity, be converted to producing other products, for example, pneumatic motors, pumps, or compressors.

Flexible automation, which ensures a sharp reduction in the needs for manpower, particularly in labor-consuming assembly operations, increasingly allows manufacturing of more competitive products in comparison with items being turned out at large enterprises in the developing countries, with their enormous resources of cheap manpower. There is a weakening of the incentives to transfer production capacities to the developing countries, something which, as is known, used to be taken advantage of by the monopolies in order to increase the competitiveness of their own products. As reported by the magazine INDUSTRY WEEK, a number of American companies which have achieved great successes in the field of flexible automation are already bringing their enterprises back to the United States from the developing countries with their cheap manpower.

The Allen Bradley company at one of its American enterprises recently put into operation a flexible, automated line for assembling contacts and relays. In the judgement of FORTUNE magazine, this line is one of the most up-to-date in the world. This line allows them to manufacture items from an extensive products list just as rapidly as in the mass production of items from a restricted, narrow products list, and with lower production costs than their principal competitors. The proportion occupied by wages in the costs of producing contacts and relays here is only 1.5 percent. This allows the company to compete successfully with the analogous items being produced in the developing countries.

Also becoming more competitive are products of the electrical-engineering as well as the electronics sectors, along with the other products of the manufacturing industry.

## MARITIME AND RIVER FLEETS

### Maritime Fleet Restructuring Overview

18290188 Moscow MORSKOY FLOT in Russian  
No 5, May 89 pp 2-4

[Article by V. Tureyev, chief of the Business Affairs Administration: "Maritime Transport: Administrative Restructuring"]

**[Text] Under today's conditions, in solving the problems of accelerating the social-economic development of the national economy, particular attention must be paid to improving the administration. This also applies fully to maritime transport, which is a component of the national economic complex.**

**On 1 July 1988, the new Master Plan for Maritime Transport Administration was put into operation. Last December, the first results of work done according to this plan were examined by the collegium of the USSR Ministry of the Maritime Fleet. What are the basic results?**

The collegium noted that the transition to the new master plan for administration ensured:

- the sector's full transition to a two-unit administrative system (USSR Ministry of the Maritime Fleet—shipping company, production association, scientific-production association, enterprise, organization);
- the transition of 25 independent enterprises and organizations to structural units;
- abolishing 8 all-union associations and organizations at the Ministry of the Maritime Fleet and one foreign economic association, as well as reducing the number of central staff workers for the ministry by 35 percent;
- consolidating the leading functional subdivisions of the ministry;
- creating a USSR State Maritime Rescue-Coordination Center and a shareholding commercial enterprise, the Soviet Commercial Fleet;
- abolishing 487 departmental normative acts and transferring the corresponding functions to the sites.

The collegium did not note only positive factors, however. It stated that in the system of interrelations between the shipping companies, on the one hand, and the ports and ship repair yards, on the other, as well as between the ministry and the shipping companies, negative phenomena have begun to appear.

For example, guided by the premises of the USSR Law on the State Enterprise (Association), some ports, without agreement with the shipping companies, and failing

to take into consideration the actual potentials of the fleet, which operates under the conditions of a constantly changing situation, have begun to conclude contracts directly with clients for the delivery of cargoes. The result is—port warehouses filled up with cargoes, hundreds of cars awaiting unloading at the port stations and thousands of tons of paralyzed export cargoes.

The yards have begun to use the considerable existing shortage of ship repair capacities as an instrument to dictate prices, deadlines and the conditions for repairing the fleet. The shipping companies refuse to conclude contracts for necessary, but economically inadequately efficient transport.

This behavior of partners who are inseparably linked, technologically and economically, in the basic units of maritime transport (fleet, ports, ship repair yards) leads to an increase in the losses of the fleet's throughput capacity and to the deterioration of the technical condition of the ships, and forces the USSR Ministry of the Maritime Fleet to resort to attracting additional foreign tonnage.

The measures adopted by the ministry to slacken these negative trends through transforming individual enterprises into structural units of the shipping companies is today encountering the resistance of the work collectives, who feel that this kind of transformation substantially encroaches upon their economic and social interests.

Because of this, and in consideration of other factors (the dynamic characteristics of the transport process, the large number of its participants who have territorial and departmental separateness, work under international shipping navigation conditions, requiring a unified freightage policy to be carried out, etc.), the collegium turned particular attention to the need for centralized management of the transport process, having in mind, on this basis, to ensure the reliability of the management system, meeting the interests of the national economy.

A poll of employees on the ministry staff showed that in the course of carrying out the new master plan for administration, there had still been no complete solution to problems of distributing the functions between the central staff and the shipping companies and among the subdivisions within the ministry, nor those of optimizing the organizational structure of the ministry as a whole and of its administrations. This once again confirms the fact that further improvement of the sector's administrative system is needed.

Taking into consideration the fact that the task of improving the administration today has taken on a strategic nature, it should become the main task for each worker in the sector, regardless of the position held. A new look at this problem is necessary. Unfortunately, it cannot be said that we have achieved this.

The development of the existing master plan for maritime transport administration has to a certain extent also shown the imperfection of work in the administrative

sphere. In the course of working on it, the shortcomings in the initial comprehensive analytical material were felt. The reasons, in my opinion, lie in the insufficiently high level of organization of work on problems of administration as a whole, the lack of a comprehensive approach to the study of this problem and the extremely weak scientific support.

The sectorial institutes are working in the sphere of ASU [automated management systems]. The scientific research on control as an integrated problem, in which ASU is only one of the means of putting into effect the administrative technology, have been virtually unorganized at the proper level, however. The head institute, Soyuzmorniprojekt, has not become for the enterprises a sectorial consulting center on administrative problems.

What is the way out? It would appear that it is above all necessary to formulate the comprehensive scientific problem, "Administration of Maritime Transport," with respect to the scientific director and main purchaser. It seems that it should include in a consolidated way:

- an analysis of the master plans for administration existing in the sector according to levels (central staff, shipping companies, enterprises, ships);
- development of a function classifier according to the administrative levels;
- correlation of foreign and domestic experience in maritime transport administration and recommendations for its use;
- analysis of the technology and equipment of production administration and proposals for their improvement, including the introduction of scientific-technical progress in maritime transport administration;
- creation of a consulting-reference bank on administrative problems;
- development of qualification requirements for directors' positions;
- improvement of the economic mechanism;
- analysis of the administration of sectorial science and a search for ways to improve it;
- an analysis of intersectorial relations and preparation of proposals to increase the efficiency of its administration;
- development of optimum variants for the maritime transport administrative master plan.

These directions should be constantly studied. It is obvious that the main developer is Soyuzmorniprojekt—the coexecutors—the regional institutes, the main purchaser—the Main Economic Administration of the Ministry of the Maritime Fleet, the purchasers by directions (blocks)—the appropriate administrations, associations and for individual problems—the shipping companies and enterprises.

Putting this approach into practice requires the formation of new ideas and attitudes toward administrative problems. Obviously, there must also be precise definition of the organizational structure in Soyuzmorniprojekt, with the scientific forces concentrated in two directions: improving the administration and the planning

Of course, the emergence of administrative problems at a qualitatively new level also touches the sphere of personnel training. For this it would be expedient to make it compulsory for the workers in the sector (as a procedure for improving qualifications) to take a special course on this problem. Obviously, it should be differentiated in accordance with the level of the directors.

The possibility of using foreign experience in carrying out administrative-managerial activity would be worth a more specific examination.

It is advisable to define more precisely the organization of training specialists in this direction in the sector's educational institutions. Today the OIIMF [Odessa Institute of Maritime Fleet Engineers] is training engineers in transport organization and administration of maritime transport, and engineers in the economics and organization of water transport. The question arises: under the conditions of the transition to economic methods of management will they not return to the variant of training engineers in a single broad specialty—"Maritime Transport Administration," combining the present two (in the 1950's, the operations department of OIIMF trained specialists with a broad profile, including the course, "Economics").

When speaking of the problem of administration, it must be borne in mind that one of its most important problems today is the formation of a new quality of centralism. The concept of maritime transport administration and the five-year plan for the next five-year plan and new regulations on the USSR Ministry of the Maritime Fleet should be prepared from this point of view.

In the course of this work, the principal factor is to find the optimum correlation between centralism and the independence of the shipping companies, directive-managerial methods and economic ones. This determines the efficiency of the administrative system. Establishing these proportions is a comprehensive and complex problem, but it must be solved.

Take, for example, planning—the central unit of administration. Today it has undergone a major shift: the inculcated stereotype of plan absolutization has been destroyed. This was furthered by the transition to establishing, for the shipping companies and enterprises, economic norms, control figures and state orders, and granting them the right to approve the plans.

The practical state of the planning system, however, does not yet fully correspond to the innovations adopted, and requires further improvement.

Economic reform has changed the proportion between the types of plans in the activity of the ministries. The role of long-range planning is increasing, and it is becoming the main direction in the planning work of the ministry. This presupposes a different functional load on the central staff workers and new organization and technology for centralized administration. The ministry staff is required to master the methodology of long-range planning, since current planning would be characteristic of the basic mass of employees. *Glasnost* is necessary. The problems are the same, in the shipping companies and at the enterprises.

Under these conditions, it would be very important to formulate, in a unified ideology, the new quality of the planning system, formalizing it in the form of *Regulations on Sectorial Planning*. It should set forth the essence of the system of planning in maritime transport (types of plans, documents by types of plans, periods for developing them, distribution of duties in the planning sphere among the central apparatus, the shipping companies and sectorial science by types of plans, interaction with local organs, organization of planning in the central apparatus, duties of specific administrations and associations, monitoring the course of carrying out the plans).

The existing system for long-range planning includes:

- a comprehensive program of scientific-technical progress for 20 years;
- a development scheme for 15 years;
- the concept and basic directions of economic and social development for 15 years;
- the five-year plan, broken down by years.

In drawing up the *Regulations on Sectorial Planning*, the functional duties of the participants in preparing these documents, taking into consideration the intensification of territorial planning, and with respect to this—the change in interaction with the local economic organs—must be clearly established.

A new methodological model should be worked out for all stages of planning in the sectorial and territorial contexts, coordinated with the functions of the ministry.

shipping company and sectorial science, allowing for the rules of cost accounting and self-financing, with attention directed to the following points.

In the first place, in the existing planning system, the idea of a unified, integral system has not so far been carried out in full measure. The documents drawn up in the system of long-range planning are not properly coordinated. For example, a gap is noticeable between the Comprehensive Program for Scientific-Technical Progress (KP NTP) for 20 years and the subsequent documents. An analysis of the KP NTP shows that it does not essentially, properly, ensure the role of the main, initial document on questions of scientific-technical progress—there is no integral system of prediction preparation or interrelation between the predicting and the planning.

In the second place, at all stages of long-range planning, the methods of five-year planning are to a considerable extent reproduced, and indeed, the composition of the documents is little differentiated in accordance with the period of predicting and planning. It is impossible to be reconciled to such a situation today.

In the third place, the program context of the plans so far remains at a low level. A large number of scientific-technical and integral programs exist in the sector formally. There is, unfortunately, no specific interrelation of the goals and results of these programs with the plans.

This problem requires particular attention, in consideration of the great importance of realizing the priority goals in the 13th Five-Year Plan. The composition of the existing programs must be seriously revised (since the result is not achieved in quantity) and the system of their interrelations with the plans worked out completely.

The independence of the shipping companies, the change in the role of the soviets of Peoples Deputies and the deepening of the economic processes intensify the significance of the territorial aspect in planning. In maritime transport this is manifested on three levels: the shipping company with its enterprises, the region (aggregate of the shipping companies in one basin) and the union republic. Under the new conditions of economic activity and in consideration of the republic's transition to cost accounting, there must be a new organizational and methodological system of processing the documents for long range planning of the Ministry of the Maritime Fleet at the level of the shipping companies and union republics, as well as a new economic mechanism, determining the interrelations of the sector and its enterprises with the local Soviets and union republics as a whole. The existing development does not meet these conditions.

The development of the territorial aspect in maritime transport administration requires intensification of the planning on the intersectorial level. Here the problems of developing a material-technical base compatible with the

related workers rise from new standpoints. The solution to the problems of interaction within the framework of the transport centers, where the basic combined work should be the economic mechanism, requires new approaches. This means that in drawing up the documents for long-range planning, elements of the specific development of maritime transport should be included in them in coordination with the related workers, particularly with the Ministry of Railways. Because these problems have not been thoroughly worked out, maritime transport is incurring considerable losses.

Problems of developing foreign economic relations become vitally important in maritime transport, for under today's economic conditions, they constitute one of the sources of intensifying the sector's development. The organizational-methodological problems of planning foreign economic relations at all levels of maritime transport administration must be worked out completely. It is extremely necessary to organize the development of predicting the international shipping and foreign economic policy of the Ministry of the Maritime Fleet, using it as the initial base when shaping the perspectives for the sector's development.

The Administration of Foreign Relations, the Sovkomflot AKP, the Sovfrakht VVO and Sovbunker should take an active role in the planning system. It is very important to coordinate the plans for 1991-1995 with the CEMA member countries at a qualitatively new level, having intensified the direct participation of the shipping companies in this work. It is to them that the priority should be given. A new direction should be examined—the participation of the Ministry of the Maritime Fleet in the formation of free economic zones in various regions of the country, with a view to issuing a sectorial policy on this problem and working out measures determining the activity of maritime transport in these zones.

The entire complex of problems of long-range planning should be solved on the basis of the broad participation of the collectives.

Shaping the new quality of the administration requires creating a system of multi-level software for maritime transport administration. It will aid in obtaining data on the current state of the production activity of the enterprises and sectors as a whole by types of activity, on the interaction with related workers, in obtaining input data for long-range planning, information on the state of international shipping, etc. Therefore, to create such a system now, the development and introduction of automated models of an integrated operations-economic analysis of the work of enterprises and the sector as a whole must be carried out at an accelerated pace, at the same time reviewing the statistics and accounting in accordance with the new quality of analysis.

An integral part of the administrative problem is the organization of administrative activity. The attention paid to these problems is still insufficient.

What should the basic directions of research to improve administrative activity be? They can be as follows:

- studying and correlating the organization level of administrative activity achieved, including an analysis of the style and methods of work in the staff of the ministry, shipping companies and enterprises; development of rough models of the organization of administrative activity for administrations, associations, enterprises, their subdivisions, directors and executors of various categories;
- predicting the social-economic changes in the organization of administrative activity and working out models of administrative organization in the future;
- determining and providing regular detailed specification of the goals and tasks of administrative activity as applied to each administrative organ in the sector and each structural subdivision, as well as specifying the official rights and duties;
- working out and introducing specific optimum organizational structures, ensuring the implementation of the set goals and tasks;
- improving the structure and work staffs of administrative personnel;
- working out the activity and improving the coordination of the interaction of administrations and associations of the ministry staff;
- increasing the efficiency of using service time in the staff of the ministry, shipping companies and their enterprises;
- introducing organizational equipment and administrative communications devices into administrative activity;
- position training and certification of administrative personnel;
- working out indicators and methods of evaluating the efficiency of administrative work in subdivisions of the ministry, shipping companies and enterprises.

Settling even the enumerated, by no means complete, list of questions on maritime transport administration at the present stage requires active use of the creative potential of scientists and practical workers on the basis of introducing new forms of interaction between sectorial science and the staff of the ministry, shipping companies and enterprises. This is one of the means to efficient development of the maritime transport administrative system.

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**Maritime Fleet Modernization Examined**

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23 May 89 pp 1, 3

[Article by L. Sokolov, head of the sector of TsNIIMF [Central Scientific Research Institute of the Maritime Fleet]: "Modernization of the Fleet: Problems and Perspectives"]

[Text] It is no secret that in recent years, chronic, negative phenomena have appeared in the development of maritime transport, which have lowered the economic indicators of its operation. Therefore, it would appear time for discussions of where the sector is going and time to proceed to specific matters. In other words, substantiated proposals are required to eliminate all the well-known shortcomings and at the same time, the shipping companies must be given full rights for the most rapid introduction of scientifically substantiated proposals into practical work. Because of this, I should like to note a number of the shortcomings in the development of the fleet in the 11th and 12th five-year plans, the elimination of which would contribute to raising the technical level of the fleet and a further improvement in the economic indicators of the work of the sector in the 13th and 14th five-year plans.

As is known, the operational activity of the fleet is characterized by productivity. The ratio of the cargo turnover to the deadweight of the Soviet fleet in 1986 was higher than the world ratio (25.5 ton-miles per ton, as against 21.5). Despite this, and the steady growth of profit, the indicators for profitability and capital-output ratio are regularly deteriorating. At the same time, this trend is unfortunately outlined for up to the year 2000, unless immediate measures are taken, particularly to eliminate the serious shortcomings existing in construction of a new fleet and in the use of the existing one. Among these basic shortcomings can be included: the low volume of fleet updating, the artificial delay in writing off obsolete ships, the insufficient attention paid to modernizing them, a sharp rise in prices, short-sighted investment policy of the State with respect to updating maritime transport and the incomplete approach to the construction of new types of fleet.

The reduction in the volume of deliveries of transport ships in the 9th-12th five-year plans led to a 25-15-percent reduction in updating the fleet in each five-year plan, which caused an increase in the service periods for the existing fleet and an acute shortage of its individual classes and groups. The timber-carrying and passenger fleet is in an extremely grievous state, as are all-purpose ships and many classes, the average age of which is 17-19 years. There is a shortage of low-tonnage timber-carriers, bulk freighters and ships to transport chemical cargoes, of the auxiliary-service fleet and of ASPTR [emergency ship salvage, repair and underwater operations]. The lack of funds for widespread modernization of ships which

are in good technical condition, and the inability or impossibility of the domestic shipbuilding and ship repair yards of the Ministry of the Shipbuilding Industry and the Ministry of the Maritime Fleet to engage in shipbuilding and modernization, or ship repair and modernization at the same time, have led to rapid obsolescence of maritime ships, on the one hand, and to the need for the Ministry of the Maritime Fleet to spend hundreds of millions of rubles to charter foreign tonnage, on the other hand.

As a result of operating obsolete ships which have not been modernized, expenditures for repair are increasing by 35-45 percent, for fuel—by 15-25 percent, and for maintenance of the sailing consist—by 20-25 percent, as compared with new ships. Because of the heavy wear on the hulls and the equipment, the ice class is lowered, and the navigation areas of the ships are restricted, which reduces their competitiveness on international routes and their use in Arctic transport and increases the accident rate of the ships.

The introduction of advanced achievements of scientific-technical progress on modern ships has led to their increased cost, and should lead to a considerable increase in profit through the increased carrying capacity of the ships and reduction in fuel expenditures and in expenditures to maintain the crew. Our fleet, however, has not managed to implement this fully. One of the main reasons is the lack of proper monitoring on the part of the Ministry of the Maritime Fleet of the level of prices for the new ships, not only those built abroad, but also those built at domestic yards. The growing complexity of the ships, growing expensiveness of the materials, rise in wages and inflation in general have had an effect on increasing their cost, but not so much as to have it approximately double in the last ten years. The fixed capital of the fleet increased by a factor of 1.97 from 1975 to 1985, and the deadweight—by a factor of 1.32. Unfortunately, in this same period, no substantial improvements were made in increasing the productivity per ton of deadweight, despite the increase in the fleet consist of new types of specialized ships—container carriers, rolers, ferries, LASH ships, heavyweight carriers and multi-purpose dry cargo ships, including those for Arctic navigation.

An analysis of the operating activity of new replacement ships should obviously be devoted to individual items. A paradoxical situation is appearing in the fleet. Unless its specific productivity increases, its excess exists, and we are speaking of a shortage. It appears that we actually have a large tonnage surplus, but it is of the obsolete vessels, the productivity of which is 20-25 percent poorer than that of the new tonnage. The old, unmodernized fleet is a plumb that drags down and deteriorates the work of the new, including the specialized.

The dangerous tendencies of the aging of the fleet were revealed at the end of the 1970's. In the situation that had formed, the ministry and the shipping companies

resorted to acquiring new ships by bareboat charter, which have been sailing for several years, and the price of which on the world market, under the conditions of tonnage reproduction, is four-fold lower than that of new ships. This is no way out. In the final analysis, the diversity of the equipment installed on the ships for various purposes leads to complicating their technical service and repair. Such ways of updating the fleet are obviously temporary, and they require a comprehensive economic evaluation.

In order to keep the fleet at a good technical level under the conditions of a reduction in the supply of new tonnage, and with the development of a long-range comprehensive program of development of maritime transport, in 1980 the institute proposed turning to modernization of the fleet. This proposal, however, did not receive the proper support from the directors of the ministry and shipping companies.

After all, modernizing the ships made it possible to raise their technical level and expand their operating potentials—for example, replacing steam turbine units with diesel, increasing the deck covering of dry cargo ships and container carriers, widespread introduction of a set of power and fuel conserving measures (bulbous contours of the bow and stern, stern flow-guiding devices, shaft-driven generators, auxiliary wind motors, lateral thrust units and stabilizers, cranes instead of cargo booms) and installing devices for automation, communication and navigation and salvage and rescue. Some shipping companies modernized ships through their own efforts. For example, the DVMP [Far East Shipping Company] reequipped dry cargo ships of the all-purpose Pula class into container carriers. This is a drop in the bucket, however. Some people propose that ships under construction undergo modernization, as for example, rollers of the Ivan Skuridin class, through lengthening them. In reality, this is not modernization but modification of new ships.

Last year, when preparing the proposals for development of the fleet up to the year 2000, the institute again put forth widespread modernization as one of the ways to raise the fleet's technical level. The scientific-technical council of the Ministry of the Maritime Fleet, however, did not support the proposals of the TsNIIMF. It appears to us that the sector should permanently draw up two programs in parallel: supplementing the fleet with new ships and modernizing the ships of the existing fleet. A program for modernization in the MMF [Ministry of the Maritime Fleet] has been worked out only once—in 1955-1956—and...was not carried out because of the transition to constructing the new fleet. It is clear that modernization will not yield the same effect as a new ship, but it will substantially improve the technical and economic indicators of ships that have been sailing for ten years, with substantially lower capital expenditures than the construction of new ones.

Obviously, under the conditions of transition to cost accounting, the shipping companies and management of the ministry must face modernizing the fleet as soon as possible. This work should be entrusted to the regional institutes, which should receive adequate financing from the shipping companies to fulfill the comprehensive technical-economic substantiations for improving ships for all purposes. There must be painstaking investigation of their technical condition, ships which should be modernized ascertained, technical-economic substantiation be fulfilled, designs for modernization be worked out, bases determined, deadlines established, etc. It must be assumed that it is impossible for the ships to be updated through the forces of the SRZ [ship repair yard] alone. The success of the modernization can be ensured only with the aid of the shipbuilding industry, by drawing in the shipyards of the CEMA member countries and capitalist countries. In the process of performing the technical-economic work, for expedience in modernization, it will be revealed necessary to write off many ships promptly, even though this can be done now, as well, without special substantiations. After all, it is not the prestigious indicator that is important—the fleet tonnage, which we often like to show off, but the efficiency of its work. Despite all the actuality and importance of this question, the subject mentioned, as before, is not included in the subject matter of the plan for sectorial science in 1989-1990.

Under the conditions of the existence of seasonal and force-majeure transport (for example, exporting cargoes to the Arctic in summer, the import of grain and other products), when the demand on the fleet sharply increases, it is obvious that a special reserve fleet should be allotted from among the obsolete, but physically reliable ships, as for example, bulk carriers, all-purpose dry cargo ships and tankers. If not, then the right must be granted to the shipping companies, which themselves, in the transport slump period for some cargoes, lay up some of the ships for various periods, that is, have a so-called "hot" and "cold" storage. This practice is widely used abroad. Of course, for our fleet this is unusual, but it is probably economically more advantageous than operating expensive ships with a great underload and with reduced capacities or speeds. True, serious social problems arise: how does one utilize the shipping consist reserve and also equip and retain the standing places for ships that have been taken out of operation.

The above measures make it possible to improve the operation indicators of the shipping companies and the sector as a whole, but still do not fully solve the problems of increasing the capital-output ratio. The problem of economic localization of the high prices for new ships remains. Various ways should be used to solve it: compensating for the heightened operating expenditures through converting to sliding freight charges and rates on a basis agreed upon between the cargo transporters and the consignor, depending on the state of the world and coastal trade market and compensation for the increased capital investments in the shipbuilding process. There

must be a change in the State policy in investments in the fleet and shipbuilding, which can be implemented in two directions: —creating powerful internal currency funds at the shipping companies, used only to update the fixed capital of the fleet, and reimbursement by the State for the increased expenditures to build new ships, which are not directly caused by the requirements and needs of the maritime fleet and which, for example, could be compensated for by reducing the cost of the ships as they are supplied for the balance sheet of the shipping company.

The importance of the maritime fleet for the country is well-known. It transports most of the total volume of USSR trade with the capitalist and developing countries. The currency effectiveness of the work of the maritime fleet is five times higher than for many types of commercial transport. The total net currency proceeds from the work of the maritime fleet constitute billions of foreign currency rubles a year, and of them approximately half are in freely convertible currency. Therefore, the more powerful and modern the Soviet maritime fleet, the more competitive it is, and the more it supplements the country's currency coffers. Reducing the volume of fleet replenishment worsens its technical level, reduces operational efficiency and restricts the export of transport services. Therefore, in the interests of the Ministry of the Maritime Fleet and the country, the volume of financing for updating the fleet from various sources should be increased. As an additional source of fleet updating, there can be an increase in the currency resources of the shipping companies through a substantial growth in the amounts of withholdings from the net currency receipts. The proposal on full transition to cost accounting for the shipping companies, renouncing centralized financing orders for new ships and using bank loans for this purpose, requires very serious calculations and economic substantiation. Under the conditions that have formed, when the fleet grows considerably and requires a large amount of updating, there must be huge capital investments, which the shipping companies are not able to make—they simply cannot. As for bank loans to supply ships, and then clear off the debts in six years with interest or without it, the question, in our opinion, has not been worked out at all. Where is the guarantee that the shipping companies will not fall into long-term dependence, into the servitude of creditors?

The key importance of transport and communications in a socialist state is such that it is hardly possible to speak seriously of complete decentralization of activity even with the transition to advanced new methods of economic activity. Under the conditions of the transition to cost accounting, the interests of the shipping companies should not run counter to the general sectorial and State

interests. The State and the sector should retain important functions of strategic significance such as carrying out a unified transport and scientific-technical policy, creating an effective system of technical service, repair and modernization of ships and carrying out an efficient investment policy to update the material-technical base of the fleet.

Therefore, it appears more realistic to retain the State financing of the Ministry of the Maritime Fleet for construction of new ships as basic. This too, however, will not be enough to ensure rapid recovery of capital investments due to the high prices for ships. As we know, many capitalist countries and a number of socialist governments give tremendous financial aid to the maritime fleet in various forms. Therefore, with a view to accelerating the updating of the fleet and creating more favorable conditions for raising the technical conditions and economic effectiveness of operating maritime ships, it is expedient to examine the question of the possibility of compensation by the State to the shipping companies for the increased cost of ships in cases when their construction is connected with solving urgent and major national economic problems of all-national significance (developing Arctic regions, the Far East and the Far North, construction of powerful icebreakers and ice-breaking-transport ships, including nuclear-powered units, satisfying the heightened ecological and social conditions for ships, developing new models of equipment), and also, when they are caused by market considerations, in which the prices for the ships are established higher than the average world prices.

Incomplete use of their potentials, especially of new, specialized ships, has an adverse effect on the economic indicators of the work of transport ships. The development of a transport fleet has always outstripped the development of other types, particularly of support ships. The lack of harmony in the development of all types of fleet, as well as of shore objects, leads to increased idle times for transport ships in ports. The undersupply of many classes of ships alone (service-auxiliary, ASPTR, dredgers, surveying boats), as well as passenger and cargo ships of local importance, in the 11th and 12th five-year plans was 20-40 percent, which causes hundreds of millions of rubles of loss in each five-year plan. These data are presented in the works of the TsNIIMF to substantiate the fleet supplementing programs of the MMF. Obviously, this question too requires a more thorough investigation, increasing and redistributing the volumes of capital investments among the transport and service types of fleet, taking into consideration the fact that the latter are in a worse position with respect to the technical state, structure and type classification than the transport fleet.

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